VRF SYSTEM
INDOOR UNIT
Cassette Type

⚠ CAUTION

R410A
REFRIGERANT

This Air Conditioner contains and operates with refrigerant R410A.

THIS PRODUCT MUST ONLY BE INSTALLED OR SERVICED BY QUALIFIED PERSONNEL.

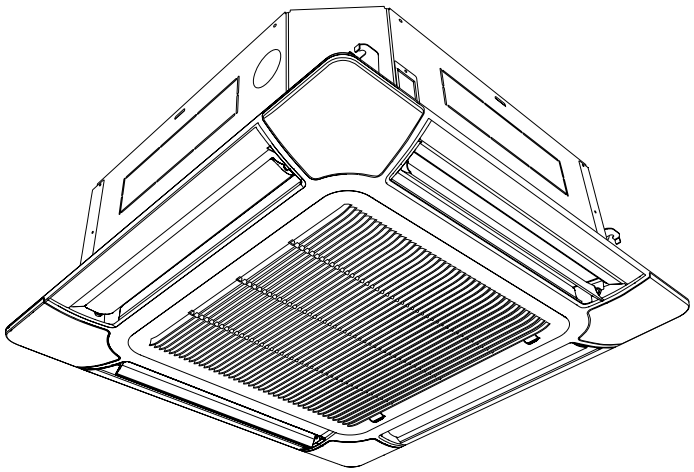
Refer to Commonwealth, State, Territory and local legislation, regulations, codes, installation & operation manuals, before the installation, maintenance and/or service of this product.

English

中文

INSTALLATION MANUAL

For authorized service personnel only.



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PART NO. 9371022062-02

1. SAFETY PRECAUTIONS

- Be sure to read this Manual thoroughly before installation.
- The warnings and precautions indicated in this Manual contain important information pertaining to your safety. Be sure to observe them.
- Hand this Manual, together with the Operating Manual to the customer.
  Request the customer to keep them on hand for future use, such as for relocating or repairing the unit.

⚠WARNING!	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.

- Request your dealer or a professional installer to install the unit in accordance with this Manual.
  An improperly installed unit can cause serious accidents such as water leakage, electric shock, or fire.
  If the unit is installed in disregard of the instructions in the Installation Manual, it will void the manufacturer's warranty.
- Do not turn ON the power until all work has been completed.
  Turning ON the power before the work is completed can cause serious accidents such as electric shock or fire.
- If refrigerant leaks while work is being carried out, ventilate the area.
  If the refrigerant comes in contact with a flame, it produces a toxic gas.
- Installation work must be performed in accordance with national wiring standards by authorized personnel only.

⚠CAUTION!	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.

2. ABOUT THE UNIT

2.1. Precautions for using the R410A refrigerant

⚠ WARNING

- Do not introduce any substance other than the prescribed refrigerant into the refrigeration cycle.
  If air enters the refrigeration cycle, the pressure in the refrigeration cycle will become abnormally high and cause the piping to rupture.
- If there is a refrigerant leakage, make sure that it does not exceed the concentration limit.
  If a refrigerant leakage exceeds the concentration limit, it can lead to accidents such as oxygen starvation.
- Do not touch refrigerant that has leaked from the refrigerant pipe connections or other area. Touching the refrigerant directly can cause frostbite.
- If a refrigerant leakage occurs during operation, immediately vacate the premises and thoroughly ventilate the area.
  If the refrigerant comes in contact with a flame, it produces a toxic gas.

2.2. Special tool for R410A

⚠ WARNING

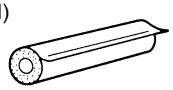
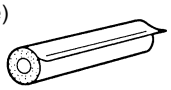
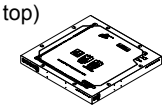
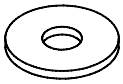
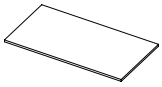
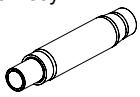
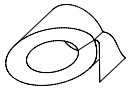
- To install a unit that uses the R410A refrigerant, use dedicated tools and piping materials that have been manufactured specifically for R410A use.
  Because the pressure of the R410A refrigerant is approximately 1.6 times higher than the R22, failure to use dedicated piping material or improper installation can cause rupture or injury.
  Furthermore, it can cause serious accidents such as water leakage, electric shock, or fire.

Tool name	Contents of change
Gauge manifold	• Pressure is huge and cannot be measured with a conventional gauge. To prevent erroneous mixing of other refrigerants, the diameter of each port has been changed. It is recommended to use a gauge manifold with a high pressure display range –0.1 to 5.3 MPa and a low pressure display range –0.1 to 3.8 MPa.
Charging hose	• To increase pressure resistance, the hose material and base size were changed.
Vacuum pump	• A conventional vacuum pump can be used by installing a vacuum pump adapter.
Gas leakage detector	• Special gas leakage detector for HFC refrigerant R410A.

2.3. Accessories

⚠ WARNING

- For installation purposes, be sure to use the parts supplied by the manufacturer or other prescribed parts.
  The use of non-prescribed parts can cause serious accidents such as the unit to fall, water leakage, electric shock, or fire.
- The following installation parts are furnished. Use them as required.
- Keep the Installation Manual in a safe place and do not discard any other accessories until the installation work has been completed.

Name and Shape	Q'ty	Application
Operation Manual	1	
Installation Manual	1	(This book)
Binder (Large)	4	For fixing the connection pipe (Large and Small)
Binder (Medium)	4	For power supply and transmission, remote control cable binding.
Coupler heat insulation (Small) 	1	For indoor side pipe joint (Small)
Coupler heat insulation (Large) 	1	For indoor side pipe joint (Large)
Template (Carton top) 	1	For installing indoor unit.
Washer 	8	For installing indoor unit.
Insulation 	1	For installing drain pipe
Drain Hose Assy 	1	For installing drain pipe
Hose Band Assy	1	For installing drain hose
Drain Pipe Insulation 	1	For installing drain pipe

3. INSTALLATION WORK

Especially, the installation place is very important for the split type air conditioner because it is very difficult to move from place to place after the first installation.

3.1. Selecting an installation location

⚠ WARNING

- Select installation locations that can properly support the weight of the indoor. Install the units securely so that they do not topple or fall.

⚠ CAUTION

- Do not install the unit in the following areas:
  - Area with high salt content, such as at the seaside.
    It will deteriorate metal parts, causing the parts to fall or the unit to leak water.
  - Area filled with mineral oil or containing a large amount of splashed oil or steam, such as a kitchen.
    It will deteriorate plastic parts, causing the parts to fall or the unit to leak water.
  - Area that generates substances that adversely affect the equipment, such as sulfuric gas, chlorine gas, acid, or alkali.
    It will cause the copper pipes and brazed joints to corrode, which can cause refrigerant leakage.
  - Area that can cause combustible gas to leak, contains suspended carbon fibers or flammable dust, or volatile inflammables such as paint thinner or gasoline.
    If gas leaks and settles around the unit, it can cause a fire.
  - Area where animals may urinate on the unit or ammonia may be generated.
- Do not use the unit for special purposes, such as storing food, raising animals, growing plants, or preserving precision devices or art objects.
  It can degrade the quality of the preserved or stored objects.
- Do not install where there is the danger of combustible gas leakage.
- Do not install the unit near a source of heat, steam, or flammable gas.
- Install the unit where drainage does not cause any trouble.
- Install the indoor unit, outdoor unit, power supply cable, transmission cable, and remote control cable at least 1 m away from a television or radio receivers. The purpose of this is to prevent TV reception interference or radio noise.
  (Even if they are installed more than 1 m apart, you could still receive noise under some signal conditions.)
- If children under 10 years old may approach the unit, take preventive measures so that they cannot reach the unit.

• Decide the mounting position with the customer as follows:

(1) Install the indoor unit on a place having a sufficient strength so that it withstands against the weight of the indoor unit.

(2) The inlet and outlet ports should not be obstructed; the air should be able to blow all over the room.

(3) Leave the space required to service the air conditioner.

(4) A place from where the air can be distributed evenly throughout the room by the unit.

(5) Install the unit where connection to the outdoor unit is easy.

(6) Install the unit where the connection pipe can be easily installed.

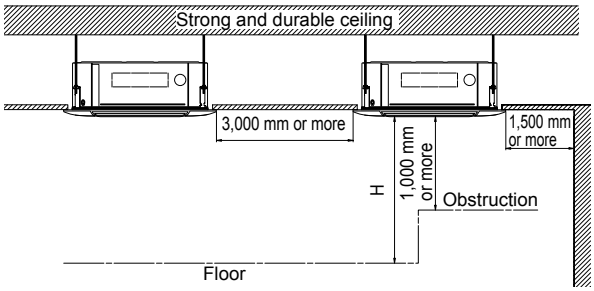
(7) Install the unit where the drain pipe can be easily installed.

(8) Install the unit where noise and vibrations are not amplified.

(9) Take servicing, etc., into consideration and leave the spaces. Also install the unit where the filter can be removed.

3.2. Installation dimensions

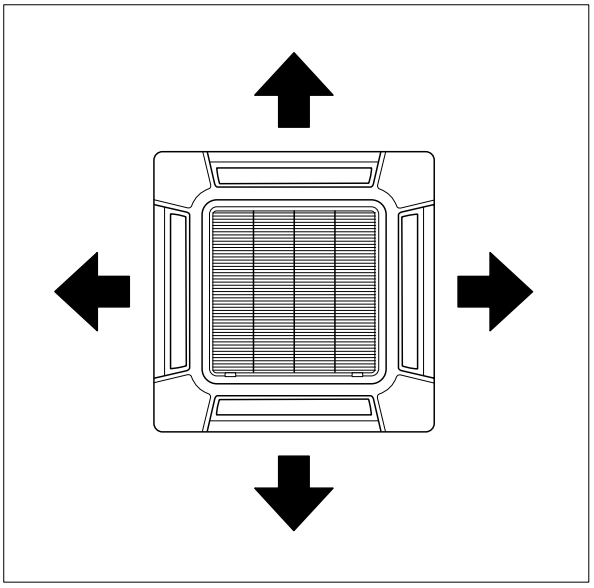
• The ceiling rear height as shown in the figure.



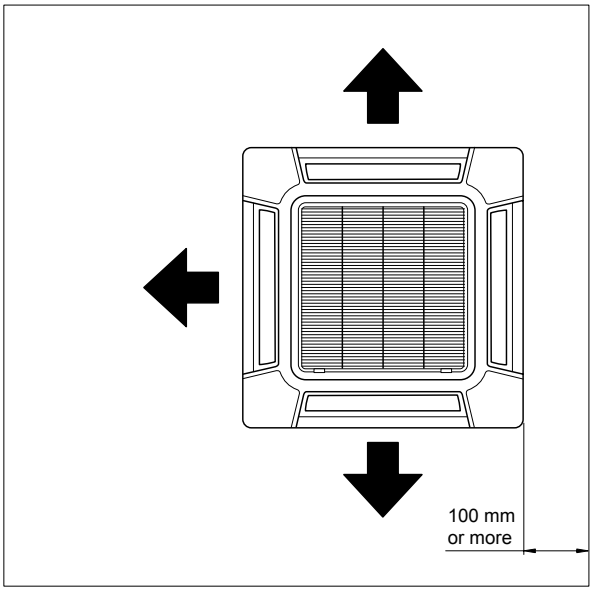
	H (The maximum height from floor to ceiling)(mm)					
Model name	AUXD18	AUXD24	AUXA30	AUXA36	AUXA45	AUXA54
Standard mode	3,000	3,000	3,200	3,200	3,200	3,200
High Ceiling mode	3,500	3,500	3,600	4,200	4,200	4,200

• Discharge Direction Setting

• The discharge direction can be selected as shown below.



4 DIRECTION



3 DIRECTION

* Select the most appropriate airflow direction from 3 or 4 directions according to the shape of the room and the installation position.

* When changing the number of outlets, we recommend using the optional AIR OUTLET SHUTTER PLATE KIT to close the outlet.

* For the specific closing pattern, please refer to the attached AIR OUTLET SHUTTER PLATE KIT'S MANUAL. (Do so before installing the decorative panel as it will be installed on the body.)

* Be sure to make the function settings with the remote control according to the number of airflow outlets and the installed ceiling height.

3.3. Installing the unit

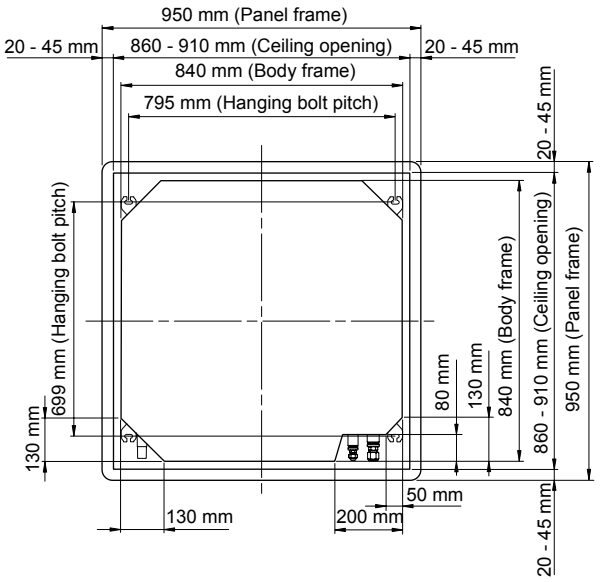
⚠ WARNING

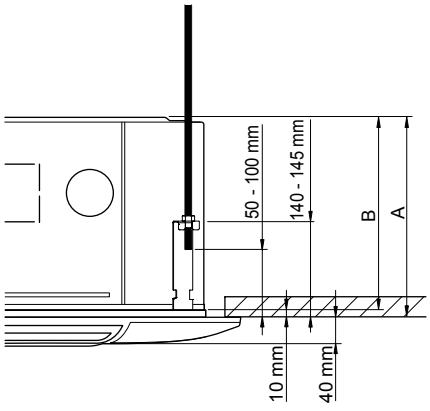
- Install the air conditioner in a location which can withstand a load do at least five times the weight of the main unit and which will not amplify sound or vibration. If the installation location is not strong enough, the indoor unit may fall and cause injuries.
- If the job is done with the panel frame only, there is a risk that the unit will come loose. Please take care.

3.3.1. Position the ceiling hole and hanging bolts

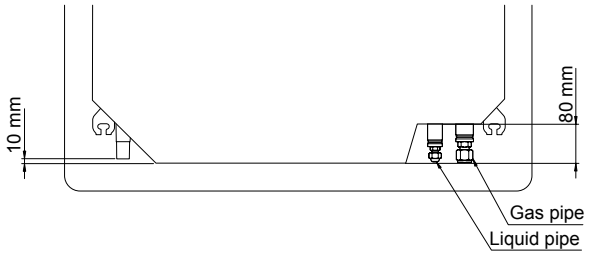
(1) Positions of the ceiling opening, hanging bolt pitch, piping and ducts. (unit: mm)

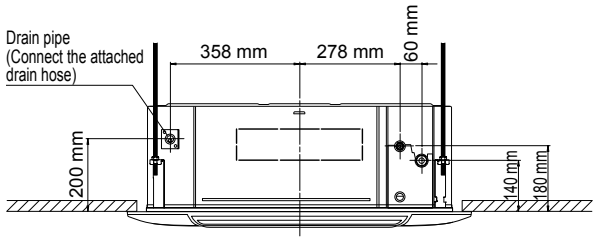
- Ceiling opening and hanging bolt pitch.





- Refrigerant piping and drain piping positions.





Model	A	B
18/24L	246	256
30/36/45/54L	288	298

(2) Setting the positions of hanging bolt and ceiling opening.

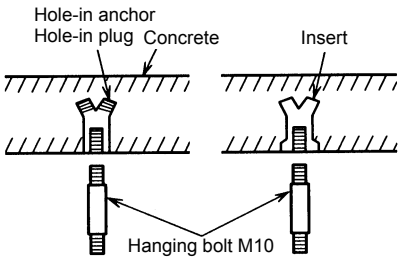
- Use an installation template (packaging top surface) to set the positions of the hanging bolt and ceiling opening and drill holes.

(3) Hanging structure.

- Select a strong structure for the hanging location.
- If necessary, reinforce the hanging bolt with quakeproof columnar support material to prevent shaking.
- Use hanging bolts of M8-M10.

3.3.2. Hanging preparations

- Firmly fasten the hanging bolts as shown in the figure or by another method.
- Install the hanging bolts at a place where they would be capable of holding a weight of at least 490 N per bolt.



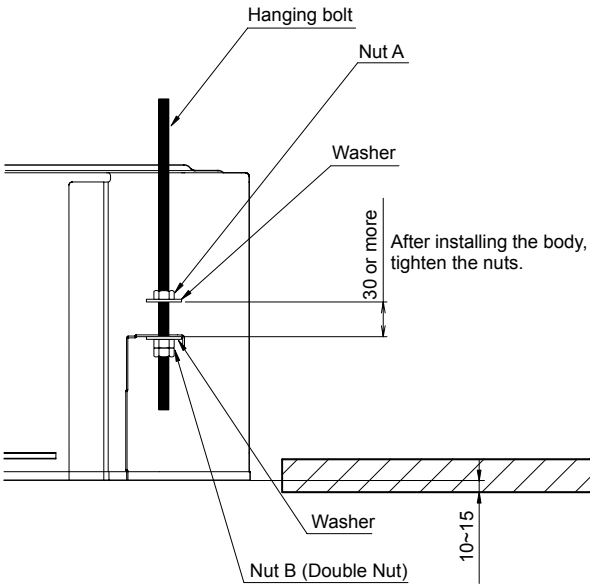
3.3.3. Body installation

(1) Install the attached washer and nut (prepared on site) onto the hanging bolt.

(2) Hook the body onto the hanging bolt.

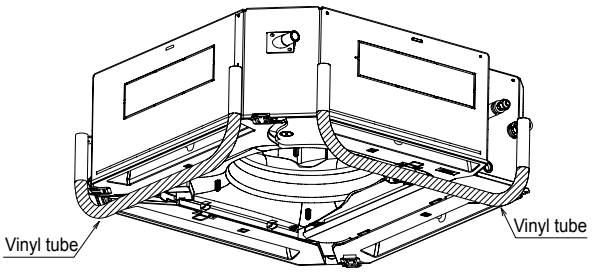
(3) Adjust the dimensions of the ceiling surface from the body. After installing the decorative panel, you can make fine adjustment of the height of the body. For details, refer to the installation manual of the decorative panel.

⚠ WARNING
• Perform final tightening by tightening the double nut firmly.
• Be sure to install the body horizontally and adjust the height below the body and the ceiling surface properly.



3.3.4. Leveling

Using a level, or vinyl hose filled with water, fine adjust so that the body is level.



4. PIPE INSTALLATION

⚠ CAUTION
• Be more careful that foreign matter (oil, water, etc.) does not enter the piping than with refrigerant R410A models. Also, when storing the piping, securely seal the openings by pinching, taping, etc.
• While welding the pipes, be sure to blow dry nitrogen gas through them.

4.1. Selecting the pipe material

⚠ CAUTION
• Do not use existing pipes.
• Use pipes that have clean external and internal sides without any contamination which may cause trouble during use, such as sulfur, oxide, dust, cutting waste, oil, or water.
• It is necessary to use seamless copper pipes. Material : Phosphor deoxidized seamless copper pipes It is desirable that the amount of residual oil is less than 40 mg/10 m.
• Do not use copper pipes that have a collapsed, deformed, or discolored portion (especially on the interior surface). Otherwise, the expansion valve or capillary tube may become blocked with contaminants.
• Improper pipe selection will degrade performance. As an air conditioner using R410A incurs pressure higher than when using conventional refrigerant, it is necessary to choose adequate materials.

- Thicknesses of copper pipes used with R410A are as shown in the table.
- Never use copper pipes thinner than those indicated in the table even if they are available on the market.

Thicknesses of Annealed Copper Pipes (R410A)

Pipe outside diameter [mm (in.)]	Thickness [mm]
6.35 (1/4)	0.80
9.52 (3/8)	0.80
12.70 (1/2)	0.80
15.88 (5/8)	1.00
19.05 (3/4)	1.20

4.2. Pipe requirement

⚠ CAUTION

- Refer to the Installation Manual of the outdoor unit for description of the length of connecting pipe or for difference of its elevation.

- Use pipe with water-resistant heat insulation.

⚠ CAUTION

- Install heat insulation around both the gas and liquid pipes. Failure to do so may cause water leaks.
  Use heat insulation with heat resistance above 120 °C. (Reverse cycle model only)
  In addition, if the humidity level at the installation location of the refrigerant piping is expected to exceed 70 %, install heat insulation around the refrigerant piping. If the expected humidity level is 70-80 %, use heat insulation that is 15 mm or thicker and if the expected humidity exceeds 80 %, use heat insulation that is 20 mm or thicker. If heat insulation is used that is not as thick as specified, condensation may form on the surface of the insulation. In addition, use heat insulation with heat conductivity of 0.045 W/(m·K) or less (at 20 °C).

4.3. Flare connection (pipe connection)

⚠ WARNING

- Tighten the flare nuts with a torque wrench using the specified tightening method. Otherwise, the flare nuts could break after a prolonged period, causing refrigerant to leak and generate a hazardous gas if the refrigerant comes into contact with a flame.

4.3.1. Flaring

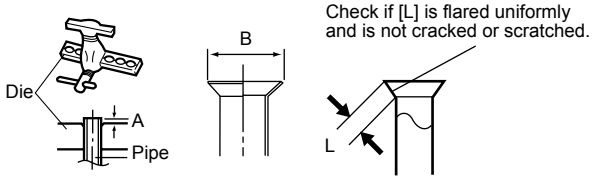
- Use special pipe cutter and flare tool exclusive for R410A.

(1) Cut the connection pipe to the necessary length with a pipe cutter.

(2) Hold the pipe downward so that cuttings will not enter the pipe and remove any burrs.

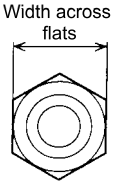
(3) Insert the flare nut (always use the flare nut attached to the indoor and outdoor units respectively) onto the pipe and perform the flare processing with a flare tool. Use the special R410A flare tool, or the conventional flare tool. Leakage of refrigerant may result if other flare nuts are used.

(4) Protect the pipes by pinching them or with tape to prevent dust, dirt, or water from entering the pipes.



Pipe outside diameter [mm (in.)]	Dimension A [mm] Flare tool for R410A, clutch type	Dimension $B^{0}_{-0.4}$ [mm]
6.35 (1/4)	0 to 0.5	9.1
9.52 (3/8)		13.2
12.70 (1/2)		16.6
15.88 (5/8)		19.7
19.05 (3/4)		24.0

When using conventional flare tools to flare R410A pipes, the dimension A should be approximately 0.5 mm more than indicated in the table (for flaring with R410A flare tools) to achieve the specified flaring. Use a thickness gauge to measure the dimension A.



Pipe outside diameter [mm (in.)]	Width across flats of Flare nut [mm]
6.35 (1/4)	17
9.52 (3/8)	22
12.70 (1/2)	26
15.88 (5/8)	29
19.05 (3/4)	36

4.3.2. Bending pipes

- If pipes are shaped by hand, be careful not to collapse them.
- Do not bend the pipes in an angle more than 90°.
- When pipes are repeatedly bend or stretched, the material will harden, making it difficult to bend or stretch them any more.
- Do not bend or stretch the pipes more than three times.

⚠ CAUTION

- To prevent breaking of the pipe, avoid sharp bends.
- If the pipe is bent repeatedly at the same place, it will break.

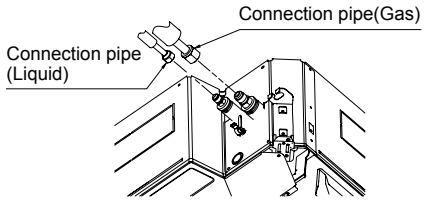
4.3.3. Pipe connection

⚠ CAUTION

- Be sure to apply the pipe against the port on the indoor unit and the outdoor unit correctly. If the centering is improper, the flare nut cannot be tightened smoothly. If the flare nut is forced to turn, the threads will be damaged.
- Do not remove the flare nut from the indoor unit pipe until immediately before connecting the connection pipe.
- Do not use mineral oil on flared part. Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.

(1) Detach the caps and plugs from the pipes.

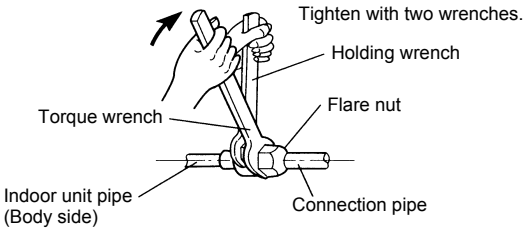
(2) Center the pipe against the port on the indoor unit, and then turn the flare nut by hand.



(3) When the flare nut is tightened properly by your hand, hold the body side coupling with a separate spanner, then tighten with a torque wrench. (See the table below for the flare nut tightening torques.)

⚠ CAUTION

- Hold the torque wrench at its grip, keeping it in the right angle with the pipe, in order to tighten the flare nut correctly.
- Tighten the flare nuts with a torque wrench using the specified tightening method. Otherwise, the flare nuts could break after a prolonged period, causing refrigerant to leak and generate a hazardous gas if the refrigerant comes into contact with a flame.



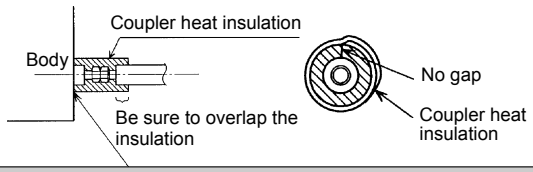
Flare nut [mm (in.)]	Tightening torque [N·m (kgf·cm)]
6.35 (1/4) dia.	16 to 18 (160 to 180)
9.52 (3/8) dia.	32 to 42 (320 to 420)
12.70 (1/2) dia.	49 to 61 (490 to 610)
15.88 (5/8) dia.	63 to 75 (630 to 750)
19.05 (3/4) dia.	90 to 110 (900 to 1,100)

4.4. Installing heat insulation

⚠ CAUTION

- After checking for gas leaks (refer to the Installation Manual of the outdoor unit), perform this section.
- Install heat insulation around both the large (gas) and small (liquid) pipes. Failure to do so may cause water leaks.

After checking for gas leaks, insulate by wrapping insulation around the two parts (gas and liquid) of the indoor unit coupling, using the Coupler heat insulation.
After installing the Coupler heat insulation, wrap both ends with vinyl tape so that there is no gap.

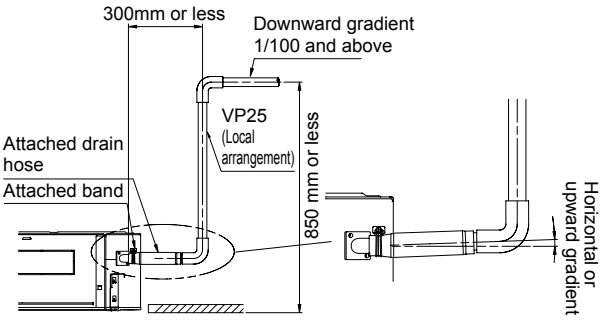


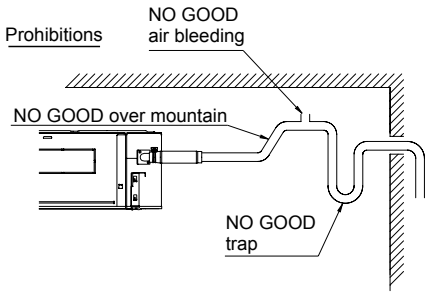
⚠ CAUTION

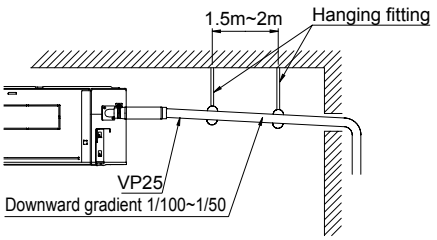
- Must fit tightly against body without any gap.

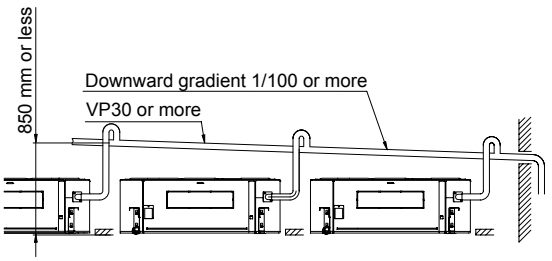
5. INSTALLING DRAIN PIPES

- Install the drain pipe with downward gradient (1/50 to 1/100) and so there are no rises or traps in the pipe.
- Use general hard polyvinyl chloride pipe (VP25) [outside diameter 32 mm (1-1/4")] and connect it with adhesive (polyvinyl chloride) so that there is no leakage.
- When the pipe is long, install supporters.
- Do not perform air bleeding.
- Always heat insulate the indoor side of the drain pipe.
- When desiring a high drain pipe height, raise it up to 850 mm or less from the ceiling within a range of 150 mm from the body. A rise dimension over this range will cause leakage.
- Set up the entire piping lines at the position 100 mm lower than the main body drain port, and use the piping lines VP30 or more with the descending inclination to 1/100 or more.









⚠ WARNING
• Do not insert the drain piping into the sewer where sulfurous gas occurs. (Heat exchange erosion may occur)
• Insulate the parts properly so that water will not drip from the connection parts.
• Check for proper drainage after the construction by using the visible portion of transparent drain port and the drain piping final outlet on the body.

⚠ CAUTION
• Do not apply adhesive agent on the drain port of the body. (Use the attached drain hose and connect the drain piping)

Working procedure

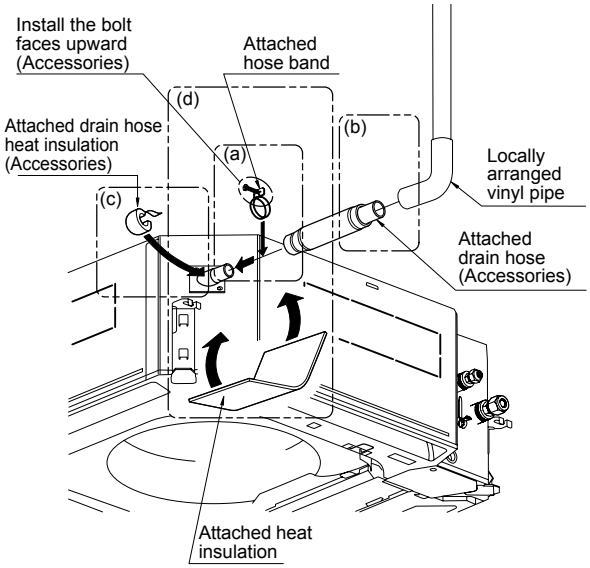
(1) Install the attached drain hose to the drain port of the body. Install the hose band from the top of the hose within the graphic display area. Secure firmly with the hose band.

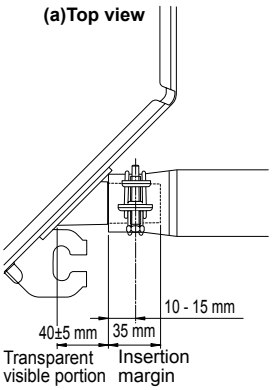
(2) Use vinyl adhesive agent to glue the drain piping (PVC pipe VP25) which is prepared on site or elbow socket. (Apply color adhesive agent evenly until the gauge line and seal)

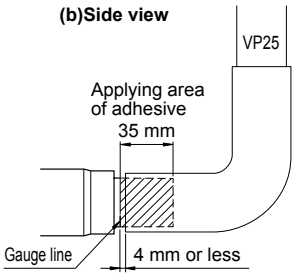
(3) Check the drainage. (See separate diagram)

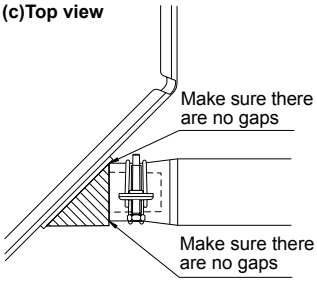
(4) Install the heat insulation.

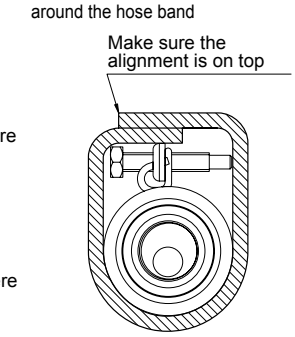
(5) Use the attached heat insulation to insulate the drain port and band parts of the body.





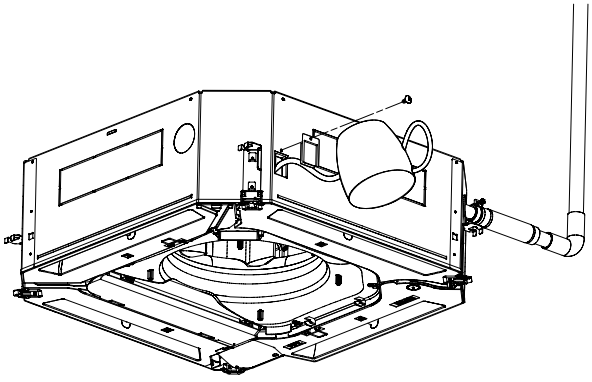






Note: Check for drainage

Pour about 1 liter of water from the position shown in the diagram or from the airflow outlet to the dew tray. Check for any abnormalities such as strange noises and whether the drain pump functions normally.



6. ELECTRICAL WIRING

⚠ WARNING

- Electrical work must be performed in accordance with this Manual by a person certified under the national or regional regulations. Be sure to use a dedicated circuit for the unit.
  An insufficient power supply circuit or improperly performed electrical work can cause serious accidents such as electric shock or fire.
- Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.
- For wiring, use the prescribed type of cables, connect them securely, making sure that there are no external forces of the cables applied to the terminal connections.
  Improperly connected or secured cables can cause serious accidents such as overheating the terminals, electric shock, or fire.
- Securely install the electrical box cover on the unit.
  An improperly installed electrical box cover can cause serious accidents such as electric shock or fire through exposure to dust or water.
- Install sleeves into any holes made in the walls for wiring. Otherwise, a short circuit could result.
- Use the included connection cables and power cables or ones specified by the manufacturer. Improper connections, insufficient insulation, or exceeding the allowable current can cause electric shock or fire.
- Do not modify the power cables, use extension cables, or use any branches in the wiring. Improper connections, insufficient insulation, or exceeding the allowable current can cause electric shock or fire.
- Match the terminal block numbers and connection cable colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric parts.
- Securely connect the connection cables to the terminal board. In addition, secure the cables with wiring holders. Improper connections, either in the wiring or at the ends of the wiring, can cause a malfunction, electric shock, or fire.
- Always fasten the outside covering of the connection cable with the cable clamp. (If the insulator is chafed, electric leakage may occur.)
- Install a ground leakage breaker. In addition, install the ground leakage breaker so that the entire AC main power supply is cut off at the same time. Otherwise, electric shock or fire could result.
- Install a ground leakage breaker.
  If a ground leakage breaker is not installed, it may cause electric shock or fire.
- Always connect the ground cable.
  Improper grounding work can cause electric shocks.
- Install the remote control cables so as not to be direct touched with your hand.
- Perform wiring work in accordance with standards so that the air conditioner can be operated safely and positively.
- Connect the connection cable firmly to the terminal board. Imperfect installation may cause a fire.

⚠ CAUTION

- Ground the unit.
  Do not connect the ground cable to a gas pipe, water pipe, lightning rod, or a telephone ground cable.
  Improper grounding may cause electric shock.
- Do not connect power supply cables to the transmission or remote control terminals, as this will damage the product.
- Never bundle the power supply cable and transmission cable together. Bundling these cables together will cause miss operation.
- When handling PCB, static electricity charged in the body may cause malfunction of the PCB. Follow the cautions below:
  - Establish a ground for the indoor and outdoor units and peripheral devices.
  - Cut power (breaker) off.
  - Touch metal part of the indoor and outdoor units for more than 10 seconds to discharge static electricity charged in the body.
  - Do not touch terminals of parts and patterns implemented on PCB.

6.1. Electrical requirement

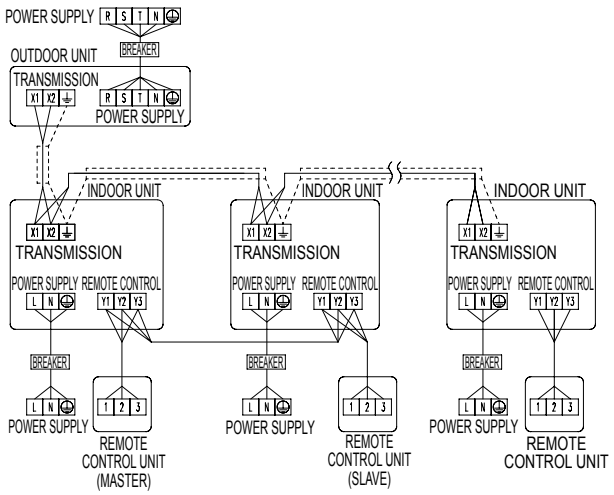
Voltage rating	230 V
Operating range	198 - 264 V

	Recommended cable size (mm^2)	Cable type	Remark
Power supply cable	2.5	Type245 IEC57 or equivalent	1ø 50 Hz 198–264 V 2 Cable + ground
Transmission cable	0.33	LONWORKS compatible cable	22 AWG LEVEL 4 (NEMA) non-polar 2 core, twisted pair solid core diameter 0.65 mm
Remote control cable	0.33	Sheathed PVC cable*	Polar 3 core Twisted pair

*: Use shielded cable in accordance with local rules for remote control cables.

6.2. Wiring method

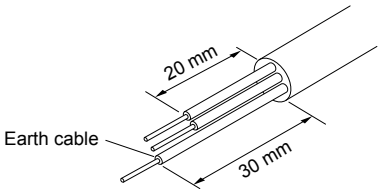
(EXAMPLE)



6.3. Unit wiring

• Before attaching the cable to terminal block.

6.3.1. Power supply cable



Power supply cable

A. For solid core wiring

(1) To connect the electrical terminal, follow the below diagram and connect after looping it around the end of the cable.

(2) Use the specified cables, connect them securely, and fasten them so that there is no stress placed on the terminals.

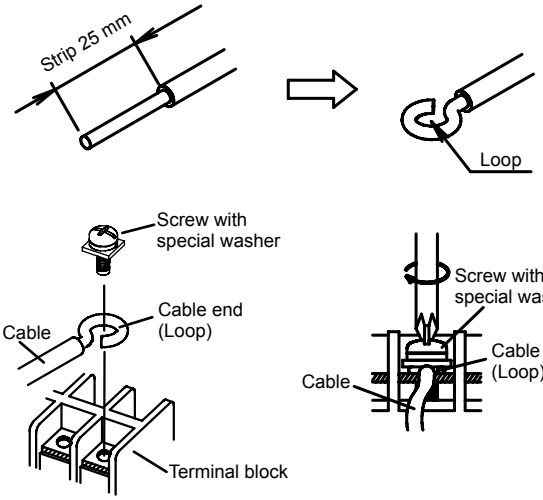
(3) Use an appropriate screwdriver to tighten the terminal screws.

Do not use a screwdriver that is too small, otherwise, the screw heads may be damaged and prevent the screws from being properly tightened.

(4) Do not tighten the terminal screws too much, otherwise, the screws may break.

(5) See the table for the terminal screw tightening torques.

(6) Please do not fix two power supply cables with one screw.



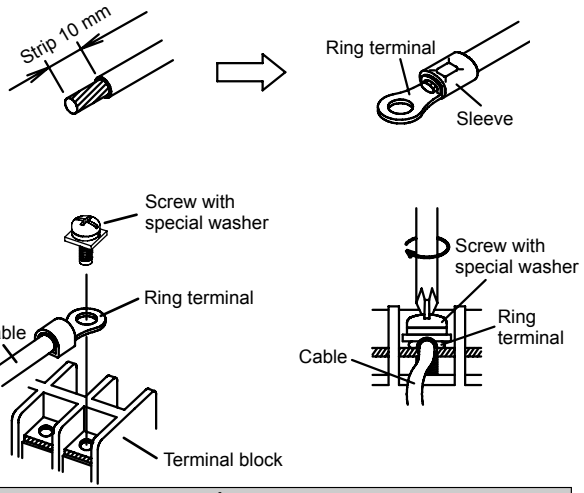
Do not apply branch wiring. It may result electric shock or fire.

⚠ WARNING

• When using solid core cables, do not use the ring terminal. If you use the solid core cables with the ring terminal, the ring terminal's pressure bonding may malfunction and cause the cables to abnormally heat up.

B. For strand wiring

(1) Use ring terminals with insulating sleeves as shown in the figure below to connect to the terminal block.
(2) Securely clamp the ring terminals to the cables using an appropriate tool so that the cables do not come loose.
(3) Use the specified cables, connect them securely, and fasten them so that there is no stress placed on the terminals.
(4) Use an appropriate screwdriver to tighten the terminal screws.
Do not use a screwdriver that is too small, otherwise, the screw heads may be damaged and prevent the screws from being properly tightened.
(5) Do not tighten the terminal screws too much, otherwise, the screws may break.
(6) See the table for the terminal screw tightening torques.
(7) Please do not fix two power supply cables with one screw.

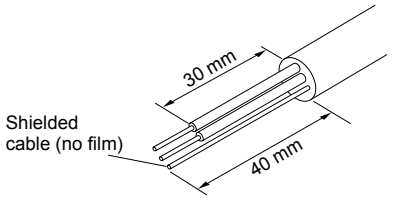


⚠ WARNING

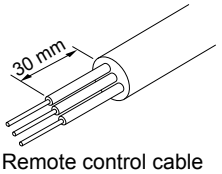
- Use ring terminals and tighten the terminal screws to the specified torques, otherwise, abnormal overheating may be produced and possibly cause heavy damage inside the unit.

Tightening torque	
M4 screw (Power supply / L, N, GND)	1.2 to 1.8 N·m (12 to 18 kgf·cm)

6.3.2. Transmission and Remote control cable



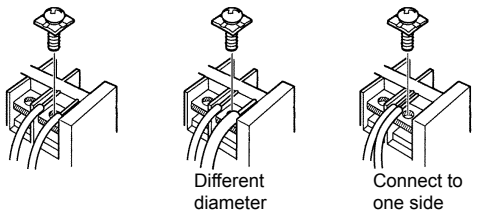
Transmission cable



Remote control cable

- Connect remote control and transmission cables as shown in Fig. C.

Fig. C



⚠ WARNING

- Tighten the terminal screws to the specified torques, otherwise, abnormal overheating may be produced and possibly cause heavy damage inside the unit.

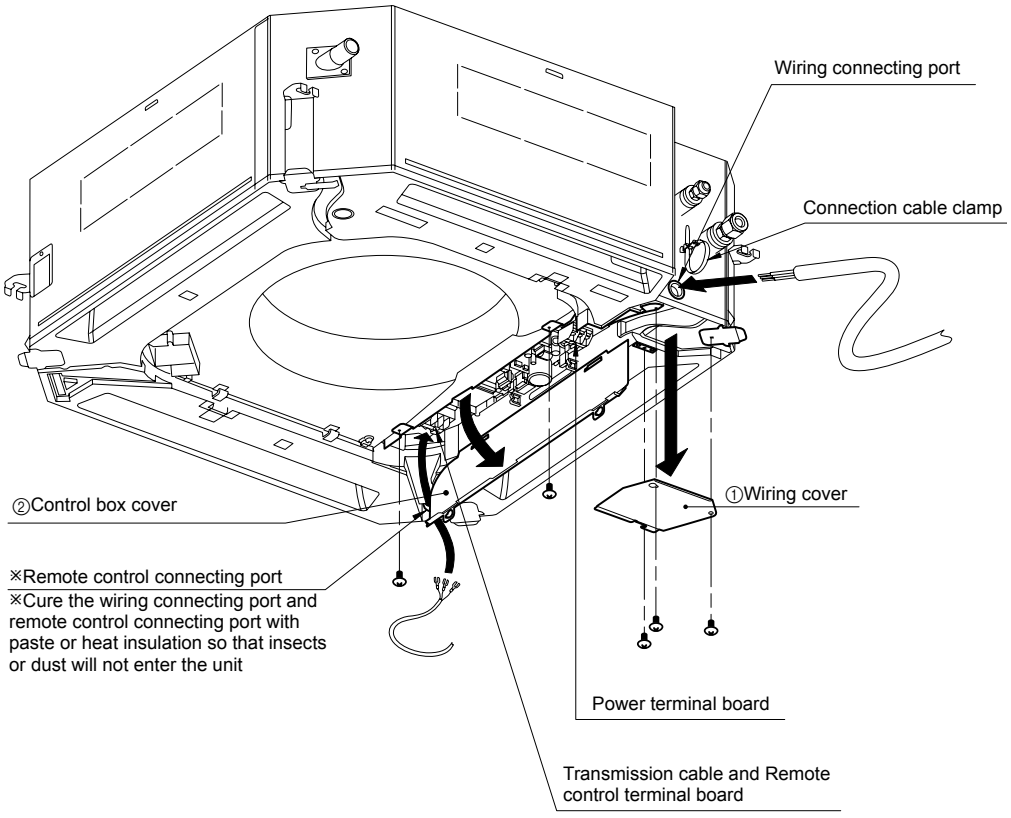
Tightening torque	
M3 screw (Transmission / X1, X2) (Remote control / Y1, Y2, Y3)	0.5 to 0.6 N·m (5 to 6 kgf·cm)

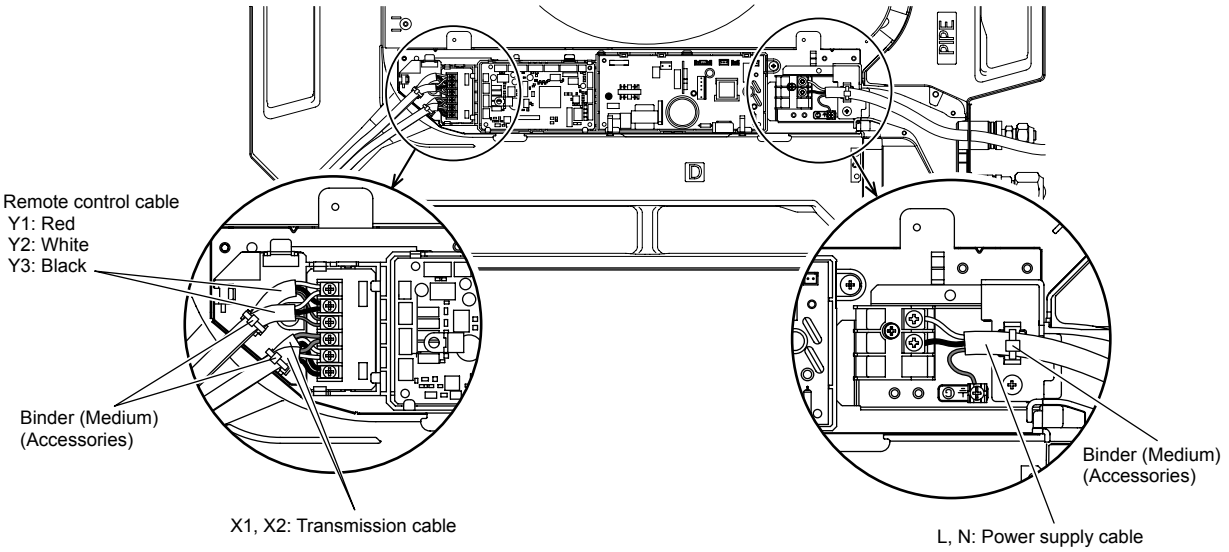
⚠ CAUTION

- To peel the film from the lead cable, use a dedicated tool that will not damage the conductor cable.
- When installing a screw on the terminal block, do not cut the cable by overtightening the screw. On the other hand, an undertightened screw can cause faulty contact, which will lead to a communication failure.

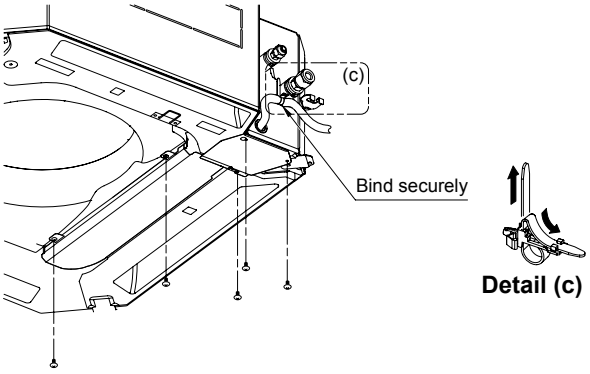
6.4. Connection of wiring

(1) Remove the control box cover and install each connection cable.
Please firmly tighten Connection cable and Remote Control cable with the attached binder.


Wiring connecting port
Connection cable clamp
②Control box cover
①Wiring cover
※Remote control connecting port
※Cure the wiring connecting port and remote control connecting port with paste or heat insulation so that insects or dust will not enter the unit
Power terminal board
Transmission cable and Remote control terminal board



(2) Please fix the Connection cable with cable Clamp. And then install the Wire Cover with screws.



(3) Install control box cover.

⚠ CAUTION

- Do not bundle the remote control cable, or wire the remote control cable in parallel, with the indoor unit connection wire (to the outdoor unit) and the power supply cable. It may cause erroneous operation.

7. FIELD SETTING

- Refer to the following three items for setting the FIELD SETTING address. The respective settings are included below.

(1) IU AD, REF AD SW settings ... This section
(2) Remote control settings ..... Refer to the wired or wireless remote control manual for detailed setting information. (Set IU AD, REF AD SW to 0)
(3) Automatic address settings..... Refer to the indoor unit manual for detailed setting information. (Set IU AD, REF AD SW to 0)

⚠ CAUTION

- Be sure to turn OFF the power before performing the field setting.

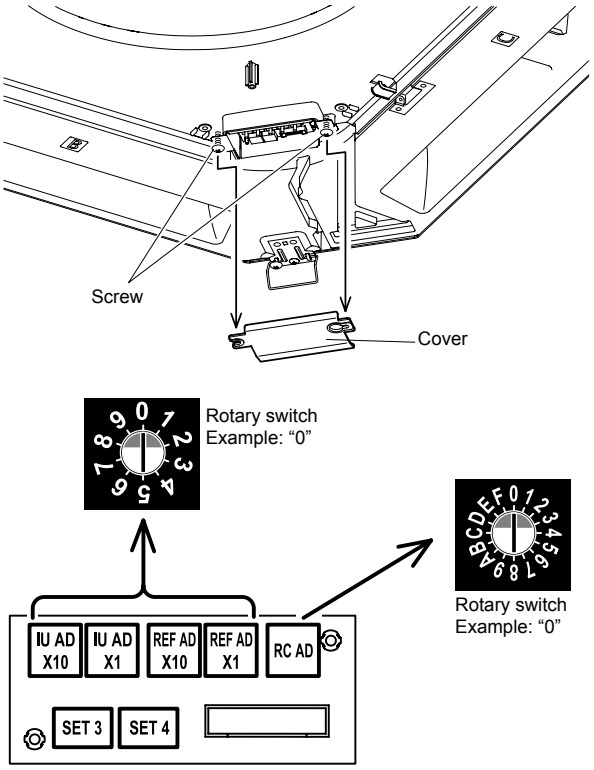
7.1. Setting the address

⚠ CAUTION

- Use an insulated screwdriver to set the dip switches.

- Remove the cover referring to the below Fig. A. Fix the cover after addressing setting.

Fig. A



Setting	Setting range	Type of switch		
Indoor unit address	0–63	Setting example 2	IU AD × 10	IU AD × 1
Refrigerant circuit address	0–99	Setting example 63	REF AD × 10	REF AD × 1

(1) Indoor unit address
Rotary switch (IU AD × 1)...Factory setting "0"
Rotary switch (IU AD × 10)...Factory setting "0"
When connecting multiple indoor units to one refrigerant system, set the address at IU AD SW as shown in the Table A.

(2) Refrigerant circuit address
Rotary switch (IU AD × 1)...Factory setting "0"
Rotary switch (IU AD × 10)...Factory setting "0"
In the case of multiple refrigerant systems, set REF AD SW as shown in the Table A for each refrigerant system.
Set to the same refrigerant circuit address as the outdoor unit.

- If working in an environment where the wireless remote controller can be used, the addresses can also be set using the remote controller.
- If setting the addresses using the wireless remote controller, set the indoor unit address and refrigerant circuit address to "00".
(For information on setting using the wireless remote controller.)

Table A

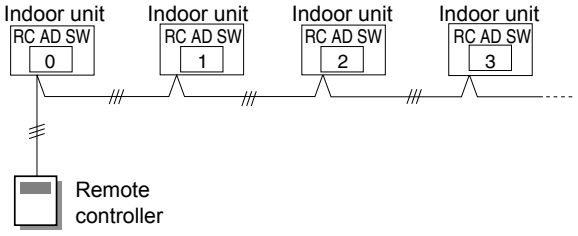
Address	Rotary Switch Setting		Address	Rotary Switch Setting	
Refrigerant circuit	REF AD SW		Indoor unit	IU AD SW	
	× 10	× 1		× 10	× 1
0	0	0	0	0	0
1	0	1	1	0	1
2	0	2	2	0	2
3	0	3	3	0	3
4	0	4	4	0	4
5	0	5	5	0	5
6	0	6	6	0	6
7	0	7	7	0	7
8	0	8	8	0	8
9	0	9	9	0	9
10	1	0	10	1	0
11	1	1	11	1	1
12	1	2	12	1	2
⋮	⋮	⋮	⋮	⋮	⋮
99	9	9	63	6	3

Do not set the indoor unit address (IU AD SW) at 64 to 99.
It may result failure.

(3) Remote controller address
Rotary switch (RC AD SW)...Factory setting "0"
When connecting multiple indoor units to one standard wired remote controller, set the address at RC AD SW in sequence from 0.

Setting	Setting range	Type of switch
Remote controller address	0–15	Setting example 0 RC AD

Example If 4 indoor units are connected.

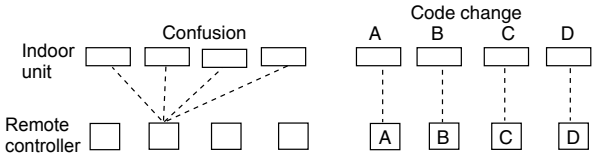


RC AD SW	0	1	2	3	4	5	6	7
Address	0	1	2	3	4	5	6	7

RC AD SW	8	9	A	B	C	D	E	F
Address	8	9	10	11	12	13	14	15

7.2. Custom code setting

Selecting the custom code prevents the indoor unit mix-up. (Up to 4 codes can be set.)
Perform the setting for both the indoor unit and the remote controller.



• Custom code setting for indoor unit

Set the DIP SW SET 3 SW1, SW2, referring to the Table B.

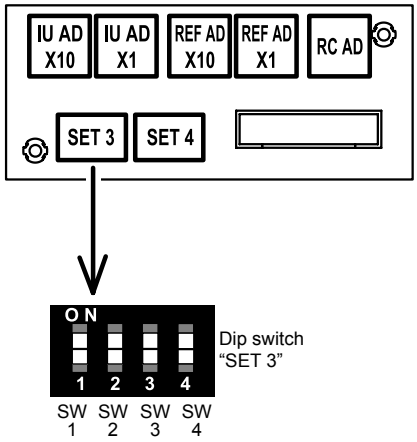


Table B

	Custom code			
	A (Factory setting)	B	C	D
DIP SW SET 3 SW1	OFF	ON	OFF	ON
DIP SW SET 3 SW2	OFF	OFF	ON	ON

7.3. Function setting

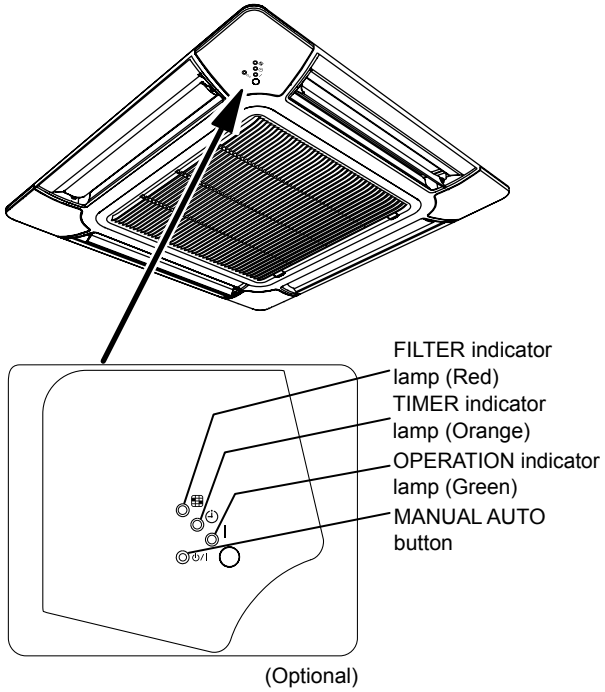
- FUNCTION SETTING can be performed with the wired or wireless remote control.
  (The remote control is optional equipment)
- Refer to the wired or wireless remote control manual for detailed setting information. (Set IU AD, REF AD SW to 0)
- Refer to “7.1. Setting the address” for indoor unit address and refrigerant circuit address settings.
- Turn the power of the indoor unit ON before starting the setting.

  * Turning on the power indoor units initializes EEV, so make sure the piping air tight test and vacuuming have been conducted before turning on the power.
  * Also check again to make sure no wiring mistakes were made before turning on the power.

Function details

Function	Function number	Setting number		Default	Details
Filter indicator interval	11	00	Default	○	Adjust the filter cleaning interval notification. If the notification is too early, change to setting 01. If the notification is too late, change to setting 02.
		01	Longer		
		02	Shorter		
Filter indicator action	13	00	Enable	○	Enable or disable the filter indicator. Setting 02 is for use with a central remote control.
		01	Disable		
		02	Display only on central remote control		
Ceiling airflow	20	00	Default	○	Regulate the airflow according to the needs of the installation location. When set to 01, the air flow will be stronger.
		01	High Ceiling		
Vertical airflow direction	23	00	Default	○	Adjust the vertical airflow direction. All airflow direction louvers are adjusted together. (Cassette type only)
		01	Raise		
Cool air temperature trigger	30	00	Default	○	Adjust the cool air trigger temperature. To lower the trigger temperature, use setting 01. To raise the trigger temperature, use setting 02.
		01	Adjust (1)		
		02	Adjust (2)		
Hot air temperature trigger	31	00	Default	○	Adjust the hot air trigger temperature. To lower the trigger temperature by 6 degrees C, use setting 01. To lower the trigger temperature by 4 degrees C, use setting 02. To raise the trigger temperature, use setting 03.
		01	Adjust (1)		
		02	Adjust (2)		
		03	Adjust (3)		
Auto restart	40	00	Enable		Enable or disable automatic system restart after a power outage.
		01	Disable	○	
External control	46	00	Start/Stop	○	Allow an external controller to start or stop the system, or to perform an emergency shutdown. *If an emergency shutdown is performed from an external controller, all refrigerant systems will be disabled.
		01	Emergency stop		
Error report target	47	00	All	○	Change the target for reporting errors. Errors can either be reported in all locations, or only on the wired remote.
		01	Display only on central remote control		

7.3.1. Button name and function



(Optional)

7.3.2. Checking the function settings

- Press and hold the “MANUAL AUTO” button on the indoor unit for 3 seconds to check the function settings. It is necessary to disconnect the power in order to return to normal operation mode.

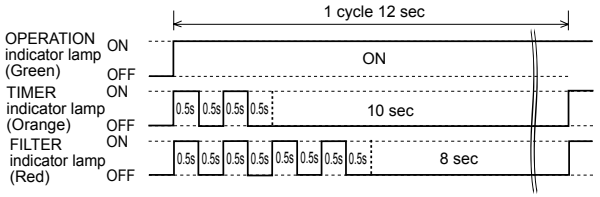
(1) Indoor unit and refrigerant address indication

Indication pattern

Indicator name	Indication pattern	
	Indoor unit address	Refrigerant address
OPERATION indicator lamp (Green)	ON	Flash (1.0s ON/1.0s OFF)
TIMER indicator lamp (Orange)	Address: tens place (0.5s ON/0.5s OFF)	
FILTER indicator lamp (Red)	Address: ones place (0.5s ON/0.5s OFF)	

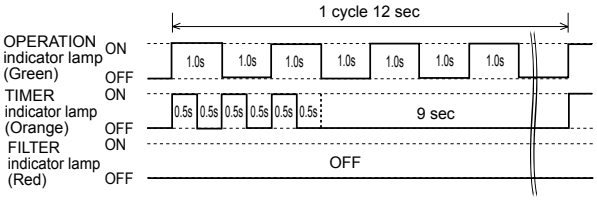
- Indoor unit address example

(Example) ADDRESS : 24



• Refrigerant address example

(Example) ADDRESS : 30



• Setting details

Function number	Item	Setting number
01	Indoor unit address	00~63
02	Refrigeration address	00~99

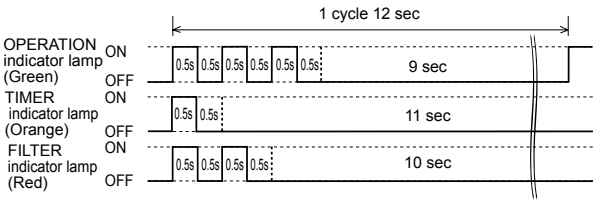
For use with a remote control, set all rotary switches to 0, and refer to “7.1. Setting the address” for details. All switches are set to 0 at the factory.

(2) Others

Indication pattern

Indicator Name	Indication pattern
OPERATION indicator lamp (Green)	Function number; tens place (0.5s ON/0.5s OFF)
TIMER indicator lamp (Orange)	Function number; ones place (0.5s ON/0.5s OFF)
FILTER indicator lamp (Red)	Setting number: (0 - 9) (0.5s ON/0.5s OFF)

(Example) Function : 31, Setting number : 2



8. DECORATION PANEL INSTALLATION

- Operate according to the installation Manual DECORATION PANEL.
- Be sure to confirm there is no gap between the panel and main unit after installing the DECORATION PANEL.

9. TEST OPERATION

9.1. Test operation using PCB (Outdoor unit)

- Refer to the Installation Manual for the outdoor unit if the PCB for the outdoor unit is to be used for the test operation.

9.2. Test operation using Remote Controller

- Refer to the Installation Manual for the remote control unit to perform the test operation using the wireless remote control unit.
- When the air conditioner is being test run, the OPERATION and TIMER indicators flash slowly at the same time.

10. CHECK LIST

Pay special attention to the check items below when installing the indoor unit(s). After installation is complete, be sure to check the following check items again.

CHECK ITEMS	If not performed correctly	CHECK BOX
Has the indoor unit been installed correctly?	Vibration, noise, indoor unit may drop	
Has there been a check for gas leaks (refrigerant pipes)?	No cooling, No heating	
Has heat insulation work been completed?	Water leakage	
Does water drain easily from the indoor units?	Water leakage	
Is the voltage of the power source the same as that indicated on the label on the indoor unit?	No operation, heat or burn damage	
Are the wires and pipes all connected completely?	No operation, heat or burn damage	
Is the indoor unit grounded?	Short circuit	
Is the connection cable the specified thickness?	No operation, heat or burn damage	
Are the inlets and outlets free of any obstacles?	No cooling, No heating	
After installation is completed, has the proper operation and handling been explained to the user?	———————	

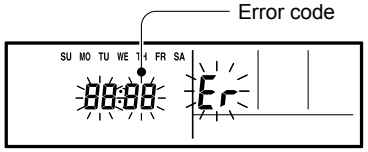
11. ERROR CODES

If you use a wired type remote control, error codes will appear on the remote control display. If you use a wireless remote control, the lamp on the photodetector unit will output error codes by way of blinking patterns. See the lamp blinking patterns and error codes in the table below.

Abnormal display			Wired Remote Controller Error CODE	Abnormal contents
OPERATION lamp (green)	TIMER lamp (orange)	FILTER lamp (red)		
● (1)	● (2)	◇	12	Remote control abnormal communication
● (1)	● (4)	◇	14	Anomalous network communications
● (1)	● (6)	◇	16	Abnormal parallel communication
● (3)	● (1)	◇	31	Abnormal power frequency
● (3)	● (2)	◇	32	Abnormal model information / abnormal EEPROM accession
● (4)	● (1)	◇	41	Abnormal room temperature thermistor
● (4)	● (2)	◇	42	Abnormal indoor heat exchanger temperature thermistor
● (5)	● (1)	◇	51	Abnormal indoor fan motor
● (5)	● (3)	◇	53	Abnormal drainage
● (9)	● (15)	◇	9U	Abnormal outdoor unit

Display mode ● : 0.5s ON / 0.5s OFF
◇ : 0.1s ON / 0.1s OFF
( ) : Number of flashing

Wired Remote Controller Display



VRF 系统
室内机
四出风嵌入式

⚠ 注意

R410A
制冷剂

本空调含有并使用制冷剂R410A。

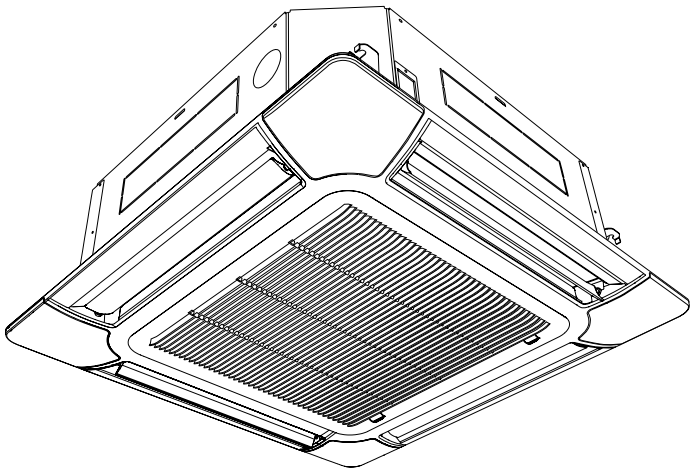
本产品需由专业人员安装或维修。

在安装、保养及（或）维修本产品前，请先阅读联邦、州、地区及地方之法律、规则、法规、及安装手册。

中文

安装说明书

仅针对授权的专业维修人员。



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部件编号 **9371022062-02**

1. 安全注意事项

- 安装之前务必彻底阅读该说明书。
- 该说明书指出的警告和注意事项包含与您的安全密切相关的重要信息。请务必遵循这些信息。
- 将该说明书与操作手册交给用户。
  请用户将它们收藏好，以便日后使用，例如更换机组位置或对机组进行修理。

⚠警告!	该标志表示如果步骤执行失当,可能会导致用户死亡或严重伤害。

- 请您的经销商或专业安装人员依照该说明书安装机组。
  机组安装不适当可能造成严重的事故，例如漏水、电击或火灾。
  如果没有依照安装说明书中的说明来安装机组，则制造商不会保用。
- 未完成所有工作之前请勿打开电源。
  在工作完成之前打开电源可能造成严重的事故，例如电击或火灾。
- 如果制冷剂在执行工作时泄漏，请为该区域通风。
  如果制冷剂与火焰接触，它会产生有毒气体。
- 务必由授权的维修人员按照国家接线标准执行安装工作。

⚠注意!	该标志表示,如果步骤执行不当,可能会导致用户人身伤害或财产损害。

2. 关于机组

2.1. 使用 R410A 制冷剂时的注意事项

⚠ 警告

- 请勿让除规定的制冷剂之外的其他物质进入制冷循环。
  如果空气进入制冷循环，则其中的压力将变得异常之高，并且会造成管道破裂。
- 如果制冷剂泄漏，请确保它未超过浓度限制。
  如果制冷剂泄漏超过了浓度限制，则可能造成缺氧等事故。
- 请不要触摸从制冷剂管接头等部位泄漏的制冷剂。直接触摸制冷剂会导致冻伤。
- 如果运行过程中发生制冷剂泄漏，请立即离开建筑物，并对该区域彻底通风。
  如果制冷剂与火焰接触，它会产生有毒气体。

2.2. R410A 的专用工具

⚠ 警告

- 若安装使用 R410A 制冷剂的机组，请使用专门为 R410A 制造的专用工具和管道材料。
  因为 R410A 制冷剂的压力大约比 R22 高 1.6 倍，所以未能使用专用管道材料或不适当的安装可能造成破裂或伤害。
  而且，可能造成严重的事故，例如漏水、电击或火灾。

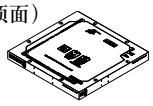
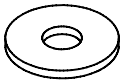
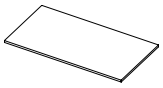
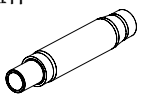
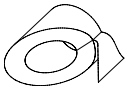
工具名称	变更内容
压力表歧管	• 压力较高,不能使用传统的压力计测量。为了避免与其它制冷剂错误混合,每个接口的直径均已更改。 建议使用具有高压力显示范围为-0.1至5.3 MPa以及低压力显示范围为-0.1至3.8 MPa的压力表歧管。
充注软管	• 为了增加抗压能力,软管材料和尺寸已变更。
真空泵	• 可以通过安装真空泵适配器使用传统的真空泵。
气体泄漏检测器	• HFC制冷剂R410A的专用气体泄漏检测器。

2.3. 附件

⚠ 警告

- 安装时，请务必使用制造商供应的部件或其他规定部件。
  使用非规定部件可能造成严重的事故，例如机组掉落、漏水、电击或火灾。
- 本机配有以下安装部件。请按照需要使用。
- 请妥善保管安装说明书，并且不要在安装工作完成前丢弃任何其它附件。

名称及形状	数量	应用
使用说明书	1	
安装说明书	1	(本书)
绑扎件(大)	4	用于固定连接管(大和小)
绑扎件(中)	4	用于绑扎电源线、信号线和遥控器线。
接管绝热材料(小)	1	用于与室内机管道的连接处(小)
接管绝热材料(大)	1	用于与室内机管道的连接处(大)

名称及形状	数量	应用
模板 （包装箱顶面） 	1	用于安装室内机。
垫片 	8	用于安装室内机。
绝热材料 	1	用于安装排水管。
排水软管组件 	1	用于安装排水管。
软管卡子组件 	1	用于安装排水管。
排水管绝缘材料 	1	用于安装排水管。

3. 安装工作

对于分体式空调，安装地点尤为重要，因为首次安装后，移动位置非常困难。

3.1. 选择安装位置

⚠ 警告

- 选择能有效支撑室内机重量的安装位置。将机组安装牢固，以免倾倒或坠落。

⚠ 注意

- 请勿将机组安装在下列区域：
  - 盐含量高的区域，例如海边。
    这会损坏金属部件，使部件掉落或使机组漏水。
  - 充满矿物油或包含大量溅油或蒸气的区域，例如厨房。
    这会损坏塑料部件，使部件掉落或使机组漏水。
  - 会产生对设备有负面影响的物质（例如硫磺气体、氯气、酸或碱）的区域。
    这会腐蚀铜管和铜焊接合，从而造成制冷剂泄漏。
  - 会造成可燃气体泄漏、包含悬浮碳化纤维或易燃灰尘或挥发性可燃物（例如涂料稀释剂或汽油）的区域。
    如果气体泄漏并留在机组周围，就可能造成火灾。
  - 动物可能会在机组上排尿或者可能会产生氨的区域。
- 请勿将机组用于特殊用途，例如存放食物、饲养动物、栽培植物或保存精密装置或艺术品。
  这可能降低保存或存放对象的质量。
- 请勿安装在可能泄漏易燃性气体的地方。
- 请勿将机组安装在靠近热源、蒸汽或易燃气体的地方。

⚠ 注意

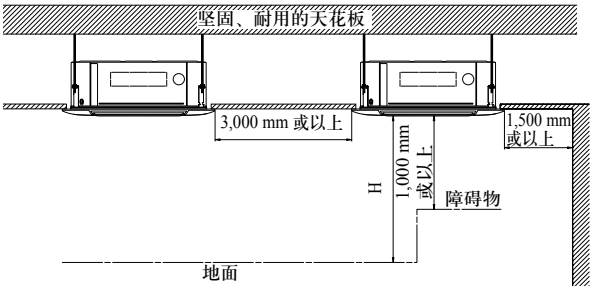
- 将机组安装在排水不会造成任何问题的地方。
- 请在距离电视机和收音机 1m 以外的地方进行室内机、室外机、电源线、信号线和遥控器线的安装。以防止电视接收干扰或无线电噪声。
  （即使在 1m 以外进行了安装，在某些信号条件下可能仍会接收到噪声。）
- 如 10 岁以下的儿童有可能接触到，请采取适当的预防措施，使他们无法接触机组。

• 请根据以下准则征询用户意见，决定安装位置：

(1) 将室内机安装在具有足够强度的地方，以便能承受室内机的重量。
(2) 不得阻挡进气口和出气口，空气能够流通到整个房间。
(3) 请保留可以维修空调的空间。
(4) 可以让机组排出的空气在整个房间内均匀分布的地方。
(5) 将机组安装在容易连接室内机的地方。
(6) 将机组安装在容易安装连接管的地方。
(7) 将机组安装在容易安装排水管的地方。
(8) 将机组安装在不会将噪音和振动放大的地方。
(9) 应考虑之后的维修等情况，并留出空间。将机组安装在可以拆卸过滤网的地方。

3.2. 安装尺寸

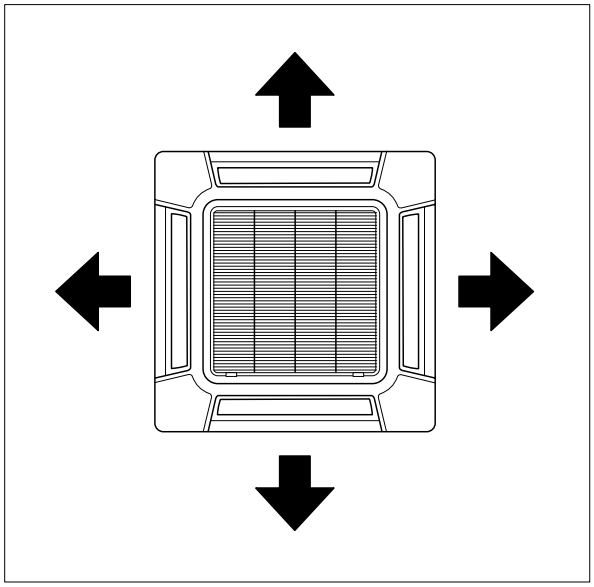
• 天花板后部高度如图所示。



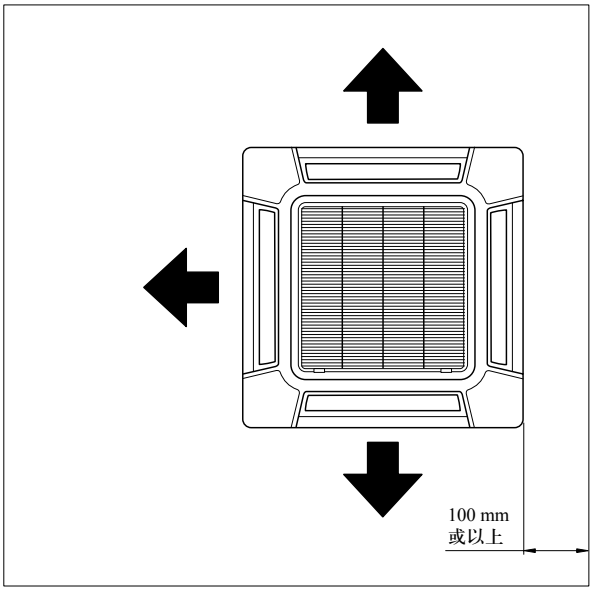
	H（从地面到天花板的最大高度）(mm)					
机型名称	AUXD18	AUXD24	AUXA30	AUXA36	AUXA45	AUXA54
标准模式	3,000	3,000	3,200	3,200	3,200	3,200
高天花板模式	3,500	3,500	3,600	4,200	4,200	4,200

• 排放方向设置

• 排放方向可如下所示选择。



四向



三向

* 根据房间形状和安装位置从三向或四向中选择最适合的送风气流。

* 改变出气口数时，建议用选购的出气口百叶窗板组件关闭出气口。

* 有关具体的关闭型式，请参见附带的出气口百叶窗板组件说明书。（请在安装装饰面板之前关闭，因为要将其安装在窗体上。）

* 必须按照送风气流的出气口数和所安装的天花板高度用遥控器进行功能设置。

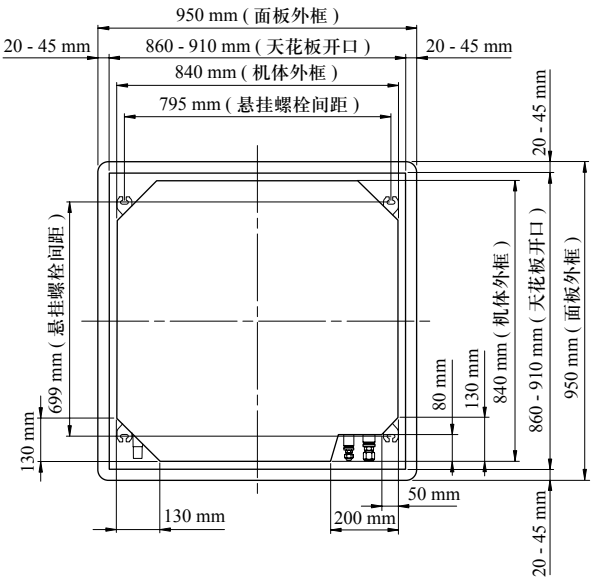
3.3. 安装机组

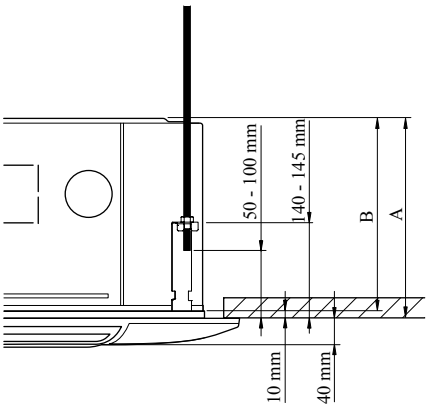
⚠ 警告
• 空调安装的位置应能承受至少等于主机重量 5 倍的载荷，且不会增大噪音或振动。如果安装位置不够坚固，室内机会坠落，引起人身伤害。
• 如果仅用面板外框进行施工，会有机组变松的危险。请小心。

3.3.1. 天花板孔和悬挂螺栓定位

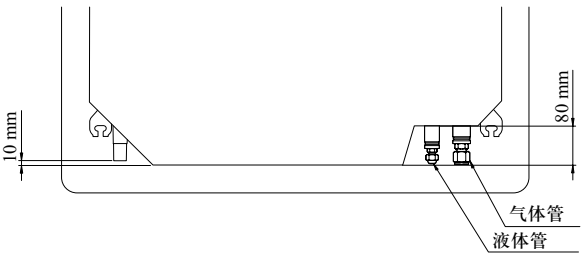
(1) 天花板开口的位置、悬挂螺栓间距、管道和风管。
（单位：mm）

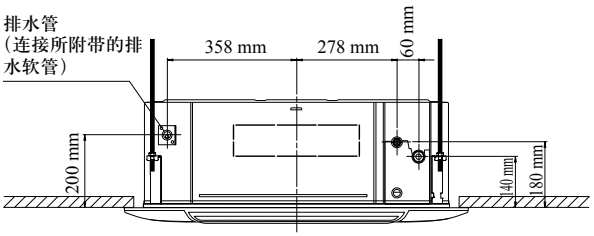
• 天花板开口和悬挂螺栓间距。


950 mm (面板外框)
20 - 45 mm
860 - 910 mm (天花板开口)
20 - 45 mm
840 mm (机体外框)
795 mm (悬挂螺栓间距)
20 - 45 mm
699 mm (悬挂螺栓间距)
80 mm
130 mm
840 mm (机体外框)
860 - 910 mm (天花板开口)
950 mm (面板外框)
130 mm
50 mm
130 mm
200 mm
20 - 45 mm



• 制冷剂管和排水管的位置。





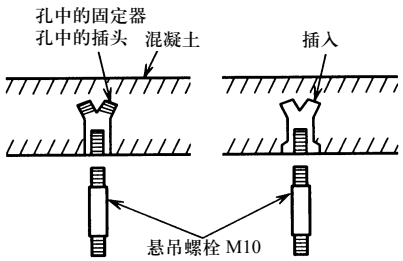
型号	A	B
18/24L	246	256
30/36/45/54L	288	298

(2) 确定悬挂螺栓和天花板开口的位置。
- 用安装模板（包装物的顶面）确定悬挂螺栓和天花板开口以及钻孔的位置。

(3) 悬挂结构。
- 选择坚固的结构作为悬挂位置。
- 如果需要，请用防震的柱形支撑材料加固悬挂螺栓，以防止振动。
- 请使用 M8-M10 的悬挂螺栓。

3.3.2. 悬吊准备

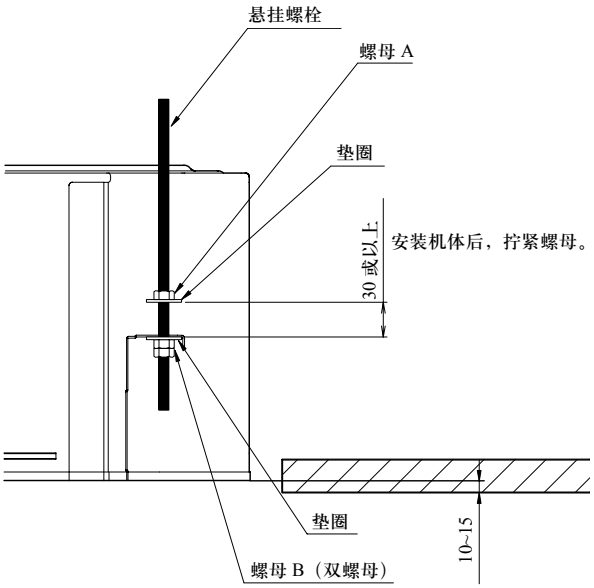
- 如图所示或利用其他方法固定悬吊螺栓。
- 在一处能承受至少每螺栓 490 N 重量的地方安装悬吊螺栓。



3.3.3. 机体安装

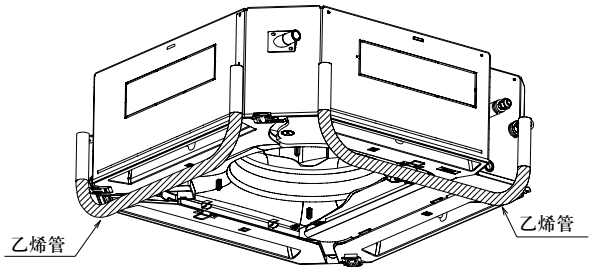
(1) 在悬挂螺栓上安装附带的垫圈和螺母（在现场准备）。
(2) 将机体挂在悬挂螺栓上。
(3) 调整天花板表面距离机体的尺寸。
安装装饰面板后，可以对机体的高度进行微调。有关详细信息，请参见装饰面板的安装说明书。

⚠ 警告
• 将双螺母拧紧，以完成最后拧紧。
• 必须水平安装机体，正确调整机体和天花板表面以下的高度。



3.3.4. 调平

用水平仪或充满水的乙烯软管进行微调，使机体水平。



4. 管道安装

⚠ 注意
• 要小心注意的是，杂质（油、水等）不会像制冷剂 R410A 型号那样进入管道。另外，存放管道时，通过夹住、捆绑等牢固密封管口。
• 焊接管道时，务必向里面冲入干燥的氮气。

4.1. 选择管材

⚠ 注意
• 不要使用原有的管道。
• 使用的管道应内外表面清洁，不含在使用过程中可能引起故障的污染物，例如硫、氧化物、灰尘、切屑、油或水。
• 必须使用无缝铜管。 材料：经过磷脱氧处理的无缝铜管。 残油量最好小于 40 mg/10 m。
• 使用的铜管不能带有压扁、变形或变色的部分（尤其是在内部表面）。否则，膨胀阀或毛细管可能会被污染物堵塞。
• 管道选择不当会降低性能。由于使用 R410A 的空调会比使用传统的制冷剂时承受更高的压力，因此需要选择适当的材料。

- 使用 R410A 的铜管厚度如表所示。
- 绝对不要使用厚度不足于表中所示的铜管，即使市场上有售。

退火铜管的厚度(**R410A**)

管外径 [mm (in.)]	厚度 [mm]
6.35 (1/4)	0.80
9.52 (3/8)	0.80
12.70 (1/2)	0.80
15.88 (5/8)	1.00
19.05 (3/4)	1.20

4.2. 管道要求

⚠ 注意

- 有关连接管道长度或不同标高的规格，请参见室外机的安装说明书。

- 使用带防水绝热材料的管道。

⚠ 注意

- 请在气体和液体管道周围安装绝热材料。否则可能会导致漏水。
  请使用抗热能力超过 120℃的绝热材料。(仅限逆循环型)
  此外，如果安装制冷剂管道的地方的湿度可能会超过 70%，请在制冷剂管道周围安装绝热材料。如果预计的湿度为 70-80%，请使用 15 mm 或更厚的绝热材料；如果预计的湿度超过 80%，请使用 20 mm 或更厚的绝热材料。如果使用的绝热材料未达到指定的厚度，可能会在材料表面形成冷凝。
  此外，请使用热传导率为 0.045 W/（m•K）或以下（20° C 时）的绝热材料。

4.3. 扩口接头（管接头）

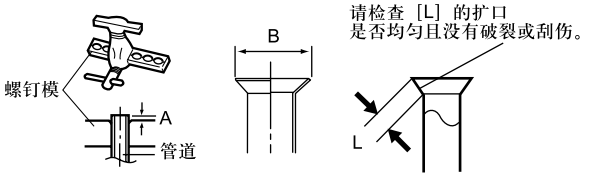
⚠ 警告

- 请用扭矩扳手按照指定的方法紧固扩口螺母。如果扩口螺母拧得太紧，长时间后扩口螺母会破裂而导致冷媒泄漏，如果接触明火，会产生有毒气体。

4.3.1. 扩口

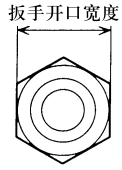
- 请使用专用的切管机和 R410A 专用的扩口工具。

(1) 使用切管机将连接管截成所需的长度。
(2) 向下握住水管以避免切屑进入管道并去除毛刺。
(3) 将扩口螺母（必须使用分别连接到室内机和室外机的扩口螺母）插入管道，并使用扩口工具执行扩口工序。请使用专用的 R410A 扩口工具或传统的扩口工具。如果使用其它扩口螺母，会导致制冷剂泄漏。
(4) 请夹住或用胶带保护管道，防止灰尘、污物或水进入管道。



管道外径 [mm (in.)]	尺寸 A [mm] R410A的扩口工具，离合式	尺寸 $B^{0}_{-0.4}$ [mm]
6.35 (1/4)	0 至 0.5	9.1
9.52 (3/8)		13.2
12.70 (1/2)		16.6
15.88 (5/8)		19.7
19.05 (3/4)		24.0

当使用传统的扩口工具对 R410A 管道进行扩口时，尺寸 A 应比表中（针对使用 R410A 扩口工具进行扩口）所指的多大约 0.5 mm 以获得指定的扩口。使用厚度测量仪测量尺寸 A。



管道外径 [mm (in.)]	扩口螺母的扳手开口宽度 [mm]
6.35 (1/4)	17
9.52 (3/8)	22
12.70 (1/2)	26
15.88 (5/8)	29
19.05 (3/4)	36

4.3.2. 弯管加工

- 如果用手使管道成形，注意请勿将它们压扁。
- 弯曲管道时角度不应超过 90° 。
- 如果反复弯曲或拉伸管道，材料将变硬，以至很难再次弯曲或拉伸。
- 弯曲或拉伸管道的次数不应超过三次。

⚠ 注意

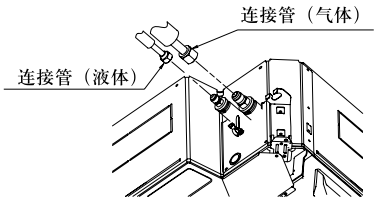
- 为了防止管道破裂，应避免过度的弯曲。
- 如果管道在同一位置反复弯曲，它会破裂。

4.3.3. 管道连接

⚠ 注意

- 务必将管道与室内机和室外机的接口正确连接。如果没有对齐，扩口螺母将无法顺利紧固。如果强行旋转扩口螺母，将损坏螺纹。
- 只有在对连接管进行连接之前才能从室内机管道上拆除扩口螺母。
- 请勿在扩口部件上使用矿物油。防止矿物油进入系统，因为这样会降低机组的寿命。

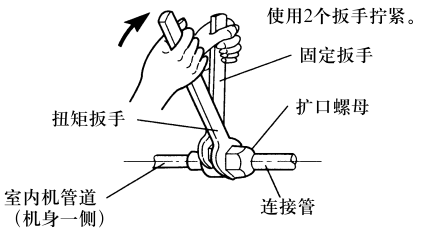
(1) 从管道上拆下盖子和栓塞。
(2) 将管道对齐室内机的接口，并用手旋转扩口螺母。



(3) 用手适当将扩口螺母拧好后，用单独的扳手固定住机身一侧的接管，然后使用扭矩扳手将其拧紧。(有关扩口螺母的拧紧扭矩，请参见下表。)

⚠ 注意

- 握住扭矩扳手的手柄，使其与管道成 90 度，以便正确地拧紧扩口螺母。
- 按照指定的拧紧方法，用扭矩扳手拧紧扩口螺母。否则长时间以后，扩口螺母会破裂，导致制冷剂泄漏，如果制冷剂与火焰接触，还会产生有害气体。



扩口螺母 [mm (in.)]	拧紧扭矩 [N·m (kgf·cm)]
6.35 (1/4) dia.	16 至 18 (160 至 180)
9.52 (3/8) dia.	32 至 42 (320 至 420)
12.70 (1/2) dia.	49 至 61 (490 至 610)
15.88 (5/8) dia.	63 至 75 (630 至 750)
19.05 (3/4) dia.	90 至 110 (900 至 1,100)

4.4. 安装绝热材料

⚠ 注意

- 检查是否漏气（请参见室外机的安装说明书）后，请按照本章节的说明进行操作。
- 请在大管道（气体）和小管道（液体）周围安装绝热材料。否则可能会导致漏水。

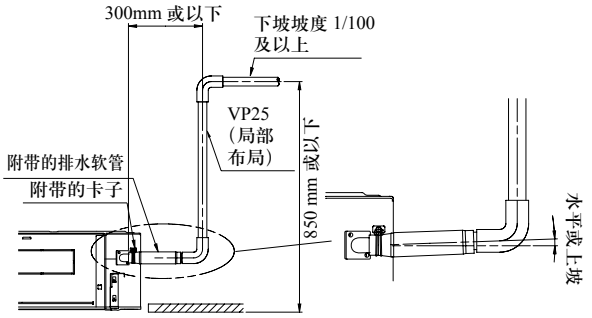
检查是否漏气后，用接管绝热材料在室内机接管的两个部分（供气和供液）缠绕绝热材料进行绝热。
安装接管绝热材料后，用聚氯乙烯绝缘带缠绕两端使其不留缝隙。

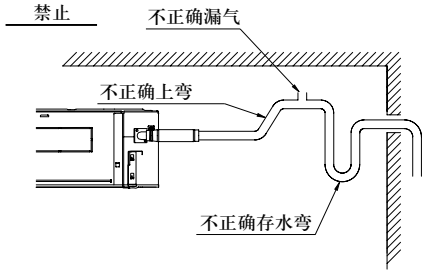
⚠ 注意

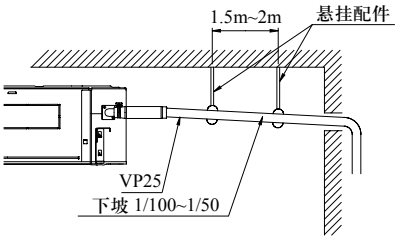
- 必须紧密贴在主机上不留缝隙。

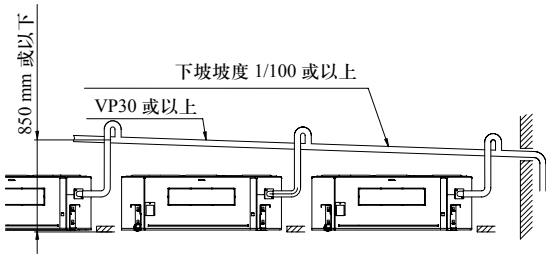
5. 安装排水管

- 安装排水管时保持一定的下坡坡度（1/50 至 1/100），并且使管道中没有凹陷或凸起。
- 使用普通的硬聚氯乙烯管（VP25）〔外径 32 mm（1-1/4”）〕，并使用不干胶（聚氯乙烯）连接，确保其没有泄漏。
- 管道较长时，请安装支架。
- 请勿执行排气操作。
- 请务必对排水管的室内部分进行热绝缘。
- 如果需要增加排水管的高度，可以在距离机体 150 mm 的范围内将其抬高，距离天花板不得超过 850 mm。如果抬高的尺寸超过此范围，将会造成损坏。
- 将整个管道安装在低于主排水口 100 mm 的位置，使用管道 VP30 或以上时，保持 1/100 或以上的下坡倾斜度。









⚠ 警告

- 切勿将排水管插入会产生含硫气体的下水道中。（可能发生热交换腐蚀）
- 对各个部分进行适当的绝热处理，确保不会有水从连接件处滴下。
- 施工后通过透明排水口的可见部分以及机体排水管的最终出口检查排水是否正常。

⚠ 注意

- 切勿在机体排水口上涂胶粘剂。（请使用附带的排水软管并连接排水管）

操作步骤

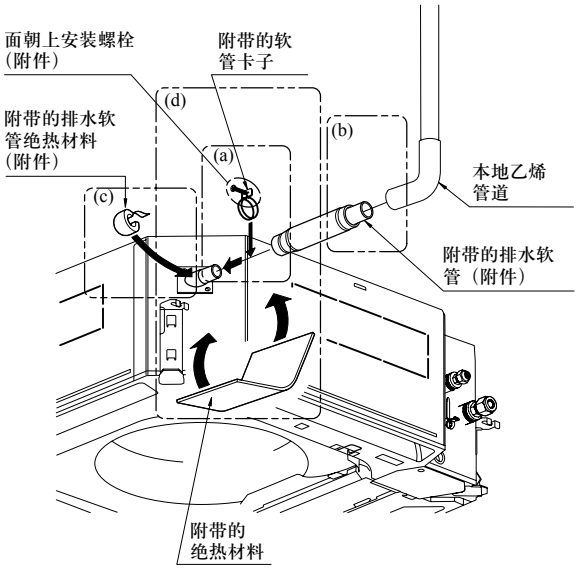
(1) 将附带的排水软管安装在机体的排水口上。在图形显示区域内从软管的顶部安装软管卡子。将其拧紧，直到 A 尺寸为 mm 或以下。请用软管夹箍牢牢地固定。

(2) 乙烯胶粘剂粘合在现场准备的排水管（PVC 管 VP25）或弯管插槽。
（在规线和密封件之前均匀地涂有色胶粘剂。）

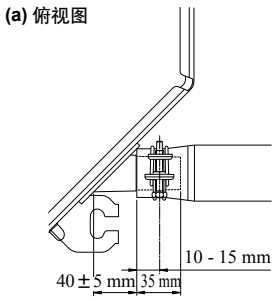
(3) 检查排水情况。（请参见单独的示意图）

(4) 安装绝热材料。

(5) 用附带的绝热材料对机体的排水口和卡子部分进行绝热。

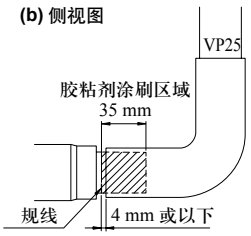


(a) 俯视图



透明可见部分 插入空间

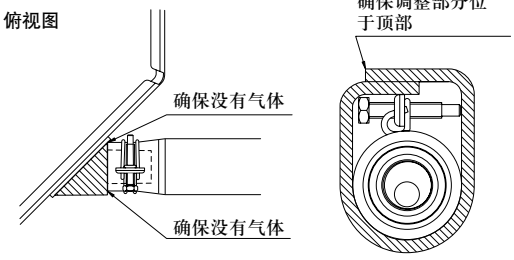
(b) 侧视图



(d) 软管剖开视图

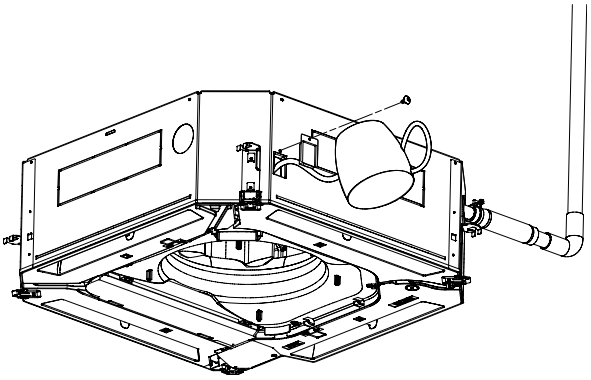
将附带的绝热材料缠在软管卡子上

(c) 俯视图



注：检查排水情况

通过图中所示位置或送风气流出气口向滴水盘注入 1 升的水。检查有无奇怪的噪声等异常情况，以及排水泵工作是否正常。



6. 电气接线

⚠ 警告
• 必须由持有证书的人员在国家或地方条例的规定下依照该说明书执行电气工作。务必对机组使用专用电路。 电源不足的电路或错误执行的电气工作可能造成严重的事故，例如电击或火灾。
• 开始工作前，检查室内机和室外机是否没有通电。
• 对于接线，请使用规定的电线类型，牢固地连接电线，确保电线上没有外力施加到终端连接上。 错误连接或固定的电线可能造成严重的事故，例如终端过热、电击或火灾。
• 将电气盒盖牢固地安装在机组上。 不适当安装的电气盒盖可能由于接触灰尘或水而造成严重的事故，例如电击或火灾。
• 请使用壁孔用管。如果不使用，有时会引起漏电等。
• 连接源线，请使用附属品及指定元件。否则可能会因接触不良、绝缘不良、超过额定电流而导致触电、火灾。
• 请勿加工电源线、使用延长线、分歧配线。否则可能会因接触不良、绝缘不良、超过额定电流而导致触电、火灾。
• 将接线盒号码与室外机上的连接线颜色相匹配。错误的接线可能会导致电气部件烧毁。
• 请将端子盘上的连接电缆安装牢靠。或是使用“配线压头”加以固定。对连接电缆进行中段连接、或插入固定不牢靠，可能会导致故障、触电、火灾等。
• 必须用线夹固定连接线的绝缘层。（如果绝缘层未被夹住，可能会发生漏电。）
• 请安装漏电开关。若要安装时，请将交流总电源全部同时切断。如果不安装漏电开关，可能会导致触电及火灾。
• 安装漏地断路器。 如果没有安装漏地断路器，则可能造成电击或火灾。
• 必须连接地线。 不当的接地工作可能会导致触电。
• 安装遥控器导线时，要确保不会用手直接触摸到。
• 按照标准进行接线工作，以便空调器可以安全无故障地运行。
• 将连接电缆牢固地连接在接线板上。不正确的安装可能会导致火灾。

⚠ 注意

- 将机组接地。
  请勿将地线连接到气体管、水管、避雷针或电话地线。
  不适当的接地可能造成电击。
- 请勿将电源线连接到信号线或遥控器接线端，因为这会损坏该产品。
- 绝不要将电源线和信号线束在一起。将这些线束在一起会导致错误运行。
- 操作 PCB 时，机身上的静电可能造成控制 PCB 发生故障。请遵循下列注意事项：
  - 对室内和室外机组以及外围设备使用接地线。
  - 切断电源（断路器）。
  - 请触摸室内和室外机组金属部分 10 秒以上，以释放机身静电。
  - 请勿触碰接线 PCB 上的部件端子和布线模式。

6.1. 电气要求

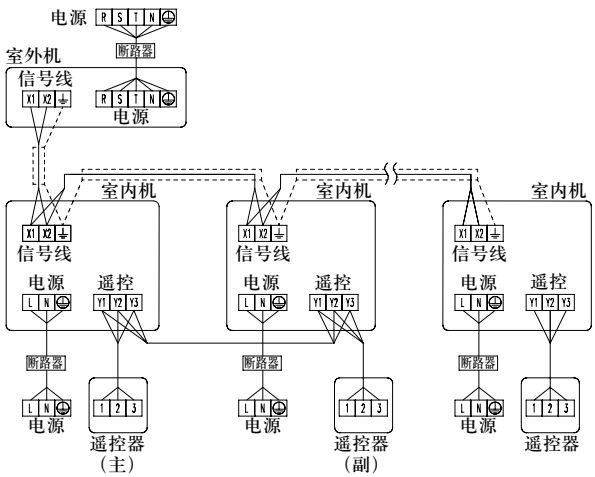
额定电压	230 V
操作范围	198 - 264 V

	电缆尺寸推荐值 (mm^2)	电线类型	备注
电源线	2.5	245 IEC57或相当品	1ø 50 Hz 198-264 V 2 电线 + 地线
信号线	0.33	LONWORKS 兼容线	22 AWG LEVEL 4 (NEMA) 非极性双芯双绞实芯线，直径0.65 mm
遥控器线	0.33	聚氯乙烯外皮电缆*	极性3芯 双绞线

*: 根据当地规则，对遥控器使用屏蔽电缆。

6.2. 接线方法

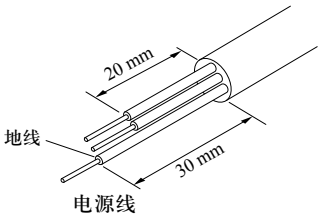
（示例）



6.3. 机组接线

- 将电线连接到接线板之前。

6.3.1. 电源线



A. 对于实心接线

(1) 要连接电气端子，请在将电线的端部结环后按照下图进行连接。

(2) 将指定的电线牢固地连接，并将其固定，使端子上没有压力。

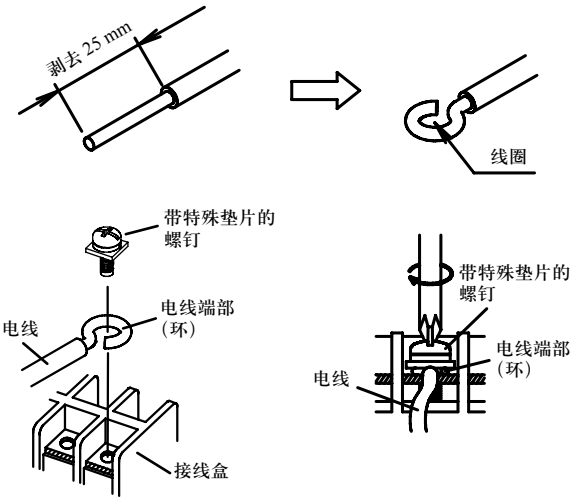
(3) 使用适合的螺丝刀拧紧端子螺钉。

请勿使用过小的螺丝刀，否则可能会损坏螺钉头并造成螺钉无法正确紧固。

(4) 请勿将端子螺钉拧得过紧，否则螺钉可能会破裂。

(5) 请参见表中的端子螺钉拧紧扭矩。

(6) 请不要用一颗螺丝固定两根电源线。



⚠ 警告

- 使用实心线时，请勿使用附带的环形端子。如果将实心线用于环形端子，环形端子的气压粘结可能会出现故障并导致电线异常发热。

B. 对于绞合线

(1) 使用下图中所示的带有绝缘套管的环形端子连接接线盒。

(2) 使用适合的工具将环形端子牢固地夹紧到电线，这样电线就不会松散。

(3) 将指定的电线牢固地连接，并将其固定，使端子上没有压力。

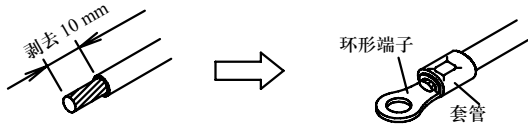
(4) 使用适合的螺丝刀拧紧端子螺钉。

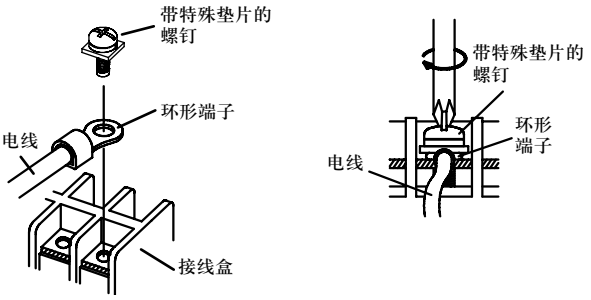
请勿使用过小的螺丝刀，否则可能会损坏螺钉头并造成螺钉无法正确紧固。

(5) 请勿将端子螺钉拧得过紧，否则螺钉可能会破裂。

(6) 请参见表中的端子螺钉拧紧扭矩。

(7) 请不要用一颗螺丝固定两根电源线。

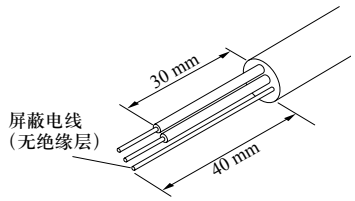




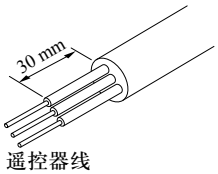
⚠ 警告
• 使用环形端子并将端子螺钉拧紧到指定的扭矩，否则可能会发生异常过热并可能导致机组内部的严重损坏。

拧紧扭矩	
M4 螺钉 （电源线 / L, N, GND）	1.2 至 1.8 N·m (12 至 18 kgf·cm)

6.3.2. 信号线和遥控器线



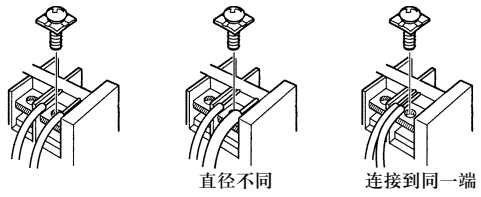
信号线



遥控器线

• 如图 C 所示连接遥控和传输电缆。

图 C



正确　　不正确　　不正确

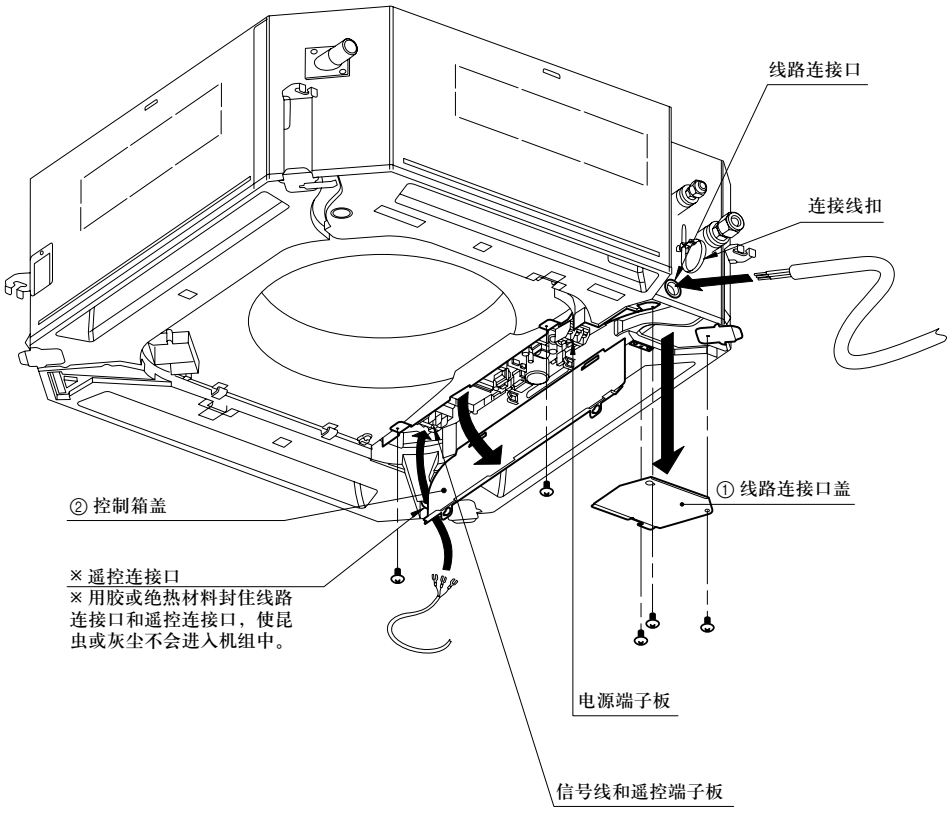
⚠ 警告
• 将端子螺钉拧紧到指定的扭矩，否则可能会发生异常过热并可能导致机组内部的严重损坏。

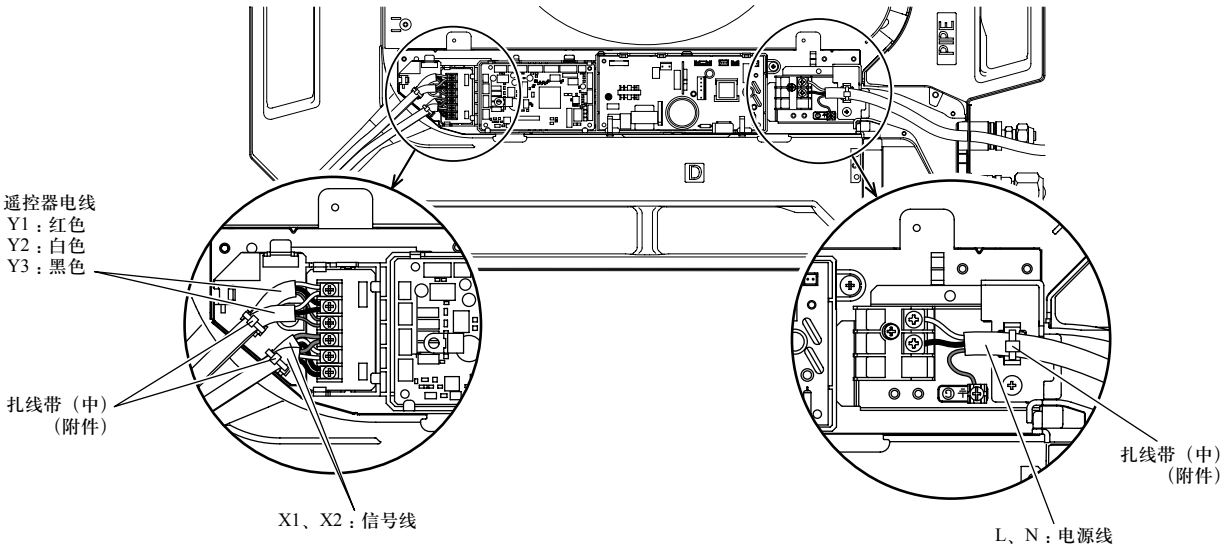
拧紧扭矩	
M3 螺钉 （信号线 / X1, X2） （遥控器线 / Y1, Y2, Y3）	0.5 至 0.6 N·m (5至 6 kgf·cm)

⚠ 注意
• 要剥去引线上的绝缘层，请使用不会损坏导线的专用工具。
• 在接线盒上安装螺钉时，请勿过度拧紧螺钉而折断电线。同时，过度拧紧的螺钉可能造成错误接触，从而导致通信故障。

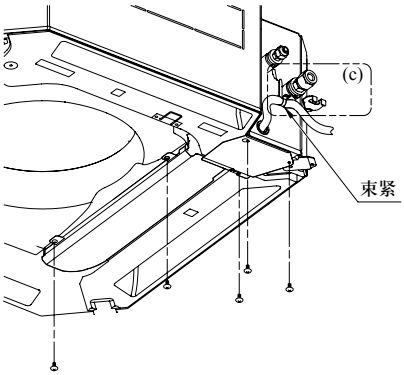
6.4. 线路的连接

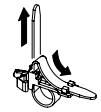
(1) 取下控制箱盖，连接每根连接线。
请用附带的扎带扎紧连接线和遥控线。





(2) 请用线扣固定连接线，然后用螺钉安装线路连接口盖。




详图 (c)

(3) 安装控制箱盖。

⚠ 注意
• 请勿将室内机连接线（至室外机）和电源线与遥控器线捆扎或与遥控器电线并联。这可能会造成错误地操作。

7. 现场设置

• 要设置现场设置地址，请参考下列 3 个项目。以下包括了相应的设置。

(1) IU AD, REF AD SW 设置..... 本部分内容

(2) 遥控器设置 ..... 有关详细的设置信息，请参考有线或无线遥控器的说明书。（将 IU AD, REF AD SW 设为 0）

(3) 自动地址设置 ..... 有关详细的设置信息，请参考室内机的说明书。（将 IU AD, REF AD SW 设为 0）

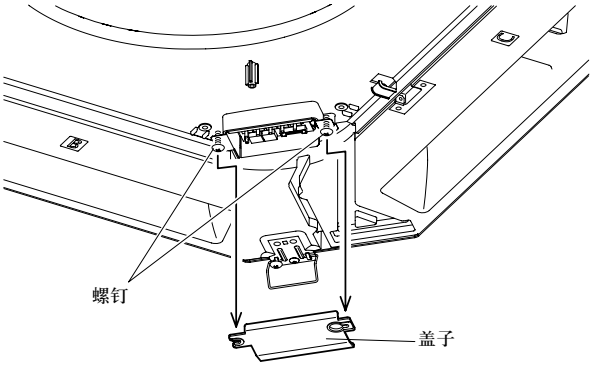
⚠ 注意
• 在执行现场设置之前，请确保切断电源。

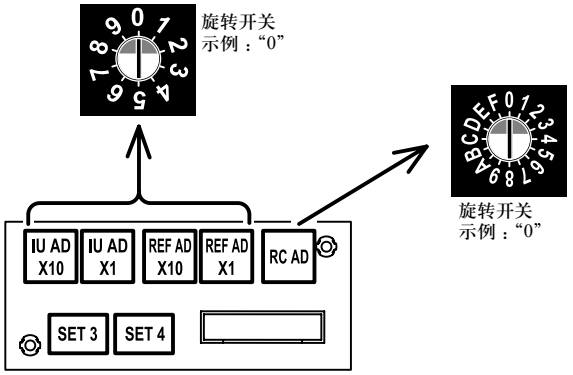
7.1. 设置地址

⚠ 注意
• 请使用绝缘螺丝刀来设置 DIP 开关。

• 请参考下图 A，取下罩盖。请在地址设定后，安装罩盖。

图 A





设置	设置范围	开关类型	
室内机地址	0–63	设置示例 2	IU AD×10 / IU AD×1
制冷剂回路地址	0–99	设置示例 63	REF AD×10 / REF AD×1

(1) 室内机地址
旋转开关 (IU AD×1) ..... 出厂设置“0”
旋转开关 (IU AD×10) ..... 出厂设置“0”
将多台室内机连接到一个制冷剂系统时，请参见表 A 中 IU AD SW 处的地址。

(2) 制冷剂回路地址
旋转开关 (IU AD×1) ..... 出厂设置“0”
旋转开关 (IU AD×10) ..... 出厂设置“0”
在有多个制冷剂系统的情况下，请按表 A 所示为每个制冷剂系统设置 REF AD SW。
设置为与室外机相同的制冷剂回路地址。

• 如果在使用无线遥控器的环境下工作，亦可使用遥控器设置地址。

• 如果使用无线遥控器设置地址，请将室内机地址和制冷剂回路地址设为“00”。
（有关使用无线遥控器设置的信息。）

表 A

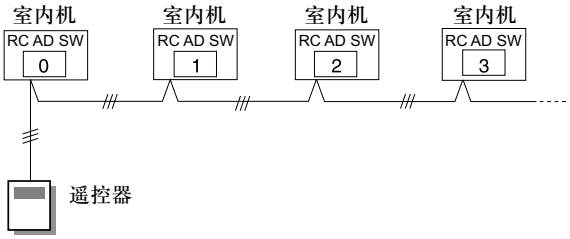
地址	旋转开关设置		地址	旋转开关设置	
制冷剂回路	REF AD SW		室内机	IU AD SW	
	× 10	× 1		× 10	× 1
0	0	0	0	0	0
1	0	1	1	0	1
2	0	2	2	0	2
3	0	3	3	0	3
4	0	4	4	0	4
5	0	5	5	0	5
6	0	6	6	0	6
7	0	7	7	0	7
8	0	8	8	0	8
9	0	9	9	0	9
10	1	0	10	1	0
11	1	1	11	1	1
12	1	2	12	1	2
⋮	⋮	⋮	⋮	⋮	⋮
99	9	9	63	6	3

请勿在 64 至 99 之间设定室内机地址（IU AD SW）。否则可能会导致故障。

(3) 遥控器地址
旋转开关 (RC AD SW) ..... 出厂设定为“0”
将多台室内机连接到一个标准有线遥控器时，请从 0 开始顺次设置 RC AD SW 处的地址。

设置	设置范围	开关类型
遥控器地址	0–15	设置示例 0 RC AD

示例 如果安装了 4 台室内机。

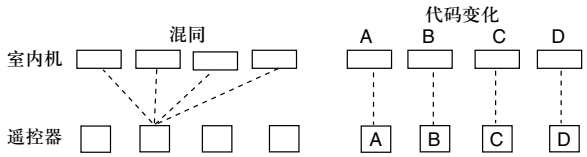


RC AD SW	0	1	2	3	4	5	6	7
地址	0	1	2	3	4	5	6	7

RC AD SW	8	9	A	B	C	D	E	F
地址	8	9	10	11	12	13	14	15

7.2. 用户代码设置

选择用户代码可以防止室内机信号混同。
(可以设置多达 4 个代码。)
为室内机和遥控器执行该设置。



• 室内机的自定义代码设置

参考表 B 设置 DIP SW SET 3 SW1, SW2。

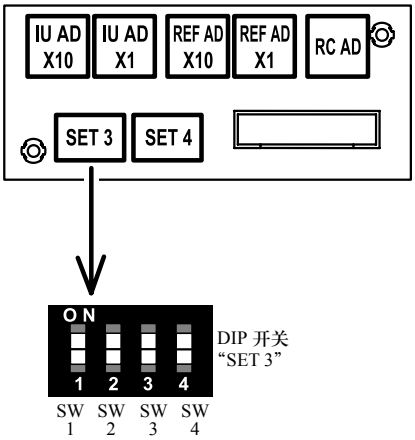


表 B

	用户代码			
	A(出厂设置)	B	C	D
DIP SW SET 3 SW 1	关(OFF)	开(ON)	关(OFF)	开(ON)
DIP SW SET 3 SW 2	关(OFF)	关(OFF)	开(ON)	开(ON)

7.3. 功能设置

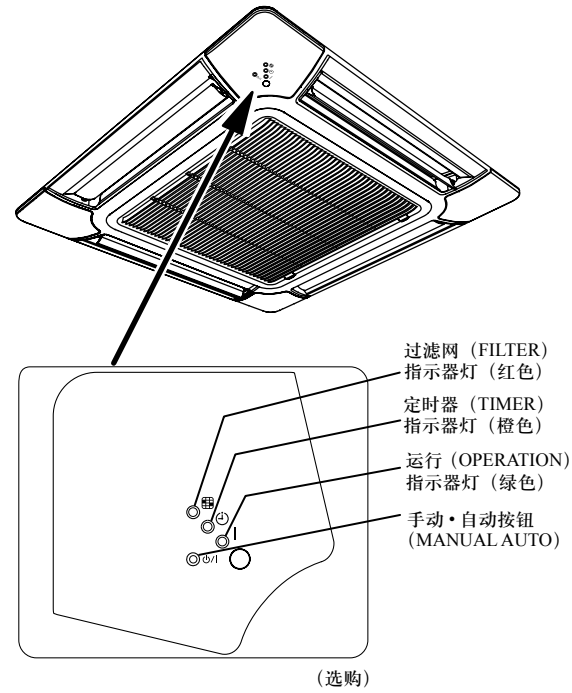
- 可以使用有线或无线遥控器执行功能设置。（遥控器为选购设备）
- 有关详细的设置信息，请参考有线或无线遥控器的说明书。（将 IU AD, REF AD SW 设为 0）
- 有关室内机地址和制冷剂回路地址设置，请参考“7.1. 设置地址”。
- 开始设置之前，请打开室内机的电源。

* 打开电源时，室内机初始化 EEV，所以请确保在打开电源之前已执行了管道气密性测试和抽真空作业。
* 打开电源前，请再次检查以确保没有接线错误。

功能说明

功能	功能号码	设置号码		默认设置	说明
过滤网指示器间隔	11	00	默认设置	○	调节过滤网清洁间隔通知。如果通知时间过早，更改为设置01。如果通知时间过迟，更改为设置02。
		01	较长		
		02	较短		
过滤网指示器操作	13	00	启用	○	启用或禁用过滤网指示器。设置02适用于中央遥控器。
		01	禁用		
		02	仅在中央遥控器上显示		
天花板气流	20	00	默认设置	○	根据安装位置的需要调节气流。如果设定成01，风量将更加猛烈。
		01	高天花板		
垂直气流方向	23	00	默认设置	○	调节垂直气流方向。同时调节所有的气流方向百叶。（仅限天花板嵌入式）
		01	抬起		
冷空气温度触发	30	00	默认设置	○	调节冷空气触发温度。要降低触发温度，使用设置01。要提高触发温度，使用设置02。
		01	调节(1)		
		02	调节(2)		
热空气温度触发	31	00	默认设置	○	调节热空气触发温度。要降低触发温度6摄氏度，使用设置01。要降低触发温度4摄氏度，使用设置02。要提高触发温度，使用设置03。
		01	调节(1)		
		02	调节(2)		
		03	调节(3)		
自动重新启动	40	00	启用		电源中断后，启用或禁用自动系统重新启动。
		01	禁用	○	
外部控制	46	00	启动/停止	○	允许外部控制器启动或停止系统，或者执行紧急关机。 * 如果从外部控制器执行紧急关机，将禁用所有制冷剂系统。
		01	紧急停止		
故障报告对象	47	00	所有	○	更改报告故障的对象。可以在所有位置报告故障，也可以只在有线遥控器上报告故障。
		01	仅在中央遥控器上显示		

7.3.1. 按钮名称和功能



（选购）

7.3.2. 检查功能设置

- 按住室内机上的“手动 • 自动（MANUAL AUTO）”按钮 3 秒钟以检查功能设置。要返回到正常运转模式，需要切断电源。

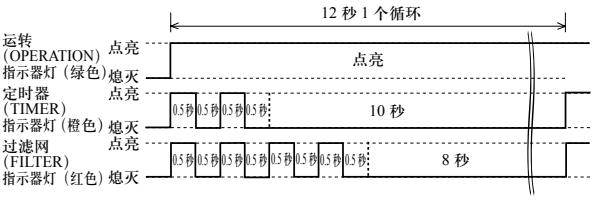
(1) 室内机和制冷剂地址指示

指示方式

指示器名称	指示方式	
	室内机地址	制冷剂地址
运转（OPERATION）指示器灯（绿色）	点亮	闪烁（1.0 秒开 / 1.0 秒关）
定时器（TIMER）指示器灯（橙色）	地址：10 处（0.5 秒开 / 0.5 秒关）	
过滤网（FILTER）指示器灯（红色）	地址：1 处（0.5 秒开 / 0.5 秒关）	

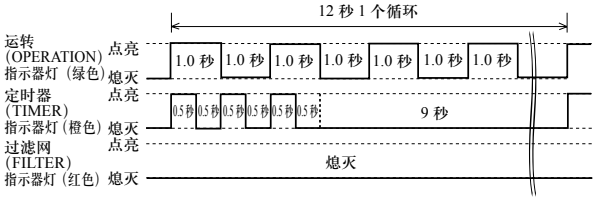
- 室内机地址示例

（示例）地址：24



• 制冷剂地址示例

（示例）地址：30



• 设置详情

功能号码	项目	设置号码
01	室内机地址	00~63
02	制冷剂地址	00~99

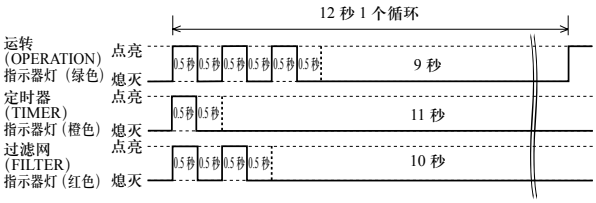
用于遥控器时，将所有的旋转开关设为 0，有关详细信息，请参考“7.1. 设置地址”。
出厂时，所有开关都被设为 0。

(2) 其它

指示方式

指示器名称	指示方式
运 转（OPERATION）指示器灯（绿色）	功能号码：10 处 （0.5 秒开／ 0.5 秒关）
定时器（TIMER）指示器灯（橙色）	功能号码：1 处 （0.5 秒开／ 0.5 秒关）
过滤网（FILTER）指示器灯（红色）	设置号码： （0-9）（0.5 秒开／ 0.5 秒关）

（示例）功能：31，设置号码：2



8. 安装装饰面板

• 请按照装饰面板的安装说明书操作。
• 安装装饰面板之后，必须确认面板与主机之间没有缝隙。

9. 试运转

9.1. 使用 PCB 进行试运转（室外机）

• 如果使用室外机的 PCB 来进行试运转，请参考本安装说明书了解室外机。

9.2. 使用遥控器进行试运转

• 要使用无线遥控器来进行试运转，请参考遥控器的安装说明书。
• 对空调器进行试运转时，运转和定时器指示灯同时缓慢地闪烁。

10. 检查项目表

安装室内机(组)时，请特别注意以下的检查项目。安装完成后，请确保再次检查以下的检查项目。

检查项目	如果未正确执行	检查框
正确地安装了室内机了吗?	振动，噪音，室内机可能掉落	
已检查气体泄漏(制冷剂管道)了吗?	无制冷，无制热	
已完成绝热工作了吗?	漏水	
室内机组排水容易吗?	漏水	
电源电压与室内机标签上显示的相同吗?	不运转，发热或烧坏	
电线和管道全都连接正确吗?	不运转，发热或烧坏	
室内机接地了吗?	短路	
连接电缆具有规定的粗细吗?	不运转，发热或烧坏	
保持进口和出口无阻塞物了吗?	无制冷，无制热	
安装完成后，向用户说明正确的操作和处理了吗?	———	

11. 故障代码

如果您使用有线型遥控器，则故障代码将显示在遥控器的显示屏上。如果您使用无线遥控器，机组上的指示灯将通过各种闪烁的组合输出故障代码。请参阅下表中的指示灯闪烁组合和故障代码。

故障显示			有线遥控器故障代码	故障内容
运转指示器（绿色）	定时器指示器（橙色）	过滤网指示器（红色）		
●(1)	●(2)	◇	12	遥控器通信故障
●(1)	●(4)	◇	14	网络通信故障
●(1)	●(6)	◇	16	并行通信故障
●(3)	●(1)	◇	31	电源频率异常
●(3)	●(2)	◇	32	型号信息异常/EEPROM存取故障
●(4)	●(1)	◇	41	室温热敏电阻故障
●(4)	●(2)	◇	42	室内机热交换器热敏电阻故障
●(5)	●(1)	◇	51	室内机风扇故障
●(5)	●(3)	◇	53	排水异常
●(9)	●(15)	◇	9U	室外机故障

显示方法 ●: 0.5 秒开 / 0.5 秒关
◇: 0.1 秒开 / 0.1 秒关
( ) : 闪烁次数

有线遥控器显示